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BENJAMIN WATERHOUSE (1754–1846), JOSIAH CHARLES TRENT 357

THE INFLUENCE OF THE CONCEPT OF MONOMANIA ON FRENCH MEDICO-LEGAL PSYCHIATRY (FROM 1825 TO 1840), RAYMOND DE SAUSSURE 365

THE STRANGE FAME OF DEMETRIO CANEVARI, PHILOSOPHER AND PHYSICIAN, GENOESE PATRICIAN (1559–1625), GEORGE SARTON . . . 398

STUDENTS OF PHYSIC AND ASTROLOGY: A Survey of Astrological Medicine in the Age of Science, HUGH G. DICK 419

ANNE HOME HUNTER AND HER FRIENDS, JANE M. OPPENHEIMER . . . 434

GOVERNMENT AND SCIENCE IN THE UNITED STATES: HISTORICAL BACKGROUNDS, MADGE E. PICKARD 446

NOTES AND QUERIES, *edited by* MAX H. FISCH 482

BOOK REVIEWS 487

NOTES ON CONTRIBUTORS 498

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Benjamin Waterhouse (1754-1846)

JOSIAH CHARLES TRENT*

BENJAMIN WATERHOUSE, one of the greatest of America's early physicians, died at his home in Cambridge, Massachusetts, on the second of October, 1846. As the centennial of his death draws near, it is fitting to review his eventful career, to reconstruct, as far as we may, his sturdy personality, and to make due acknowledgment of our debt to him. Though born a Quaker, he was not destined for peace; throughout his mature life his pen was continually in use, either attacking his political opponents or in expounding and defending his scientific views. Of the many public services which he rendered during his ninety-two years of life some received adequate recognition, but more often they met with bitter opposition or, worse still, cold neglect. Through it all, though he suffered disappointments, loss, and even privation, he carried himself with a proud and stubborn confidence in his own rectitude. The last entry in his diary, made on April 14, 1844, early in his ninety-first year, well shows the sound spirit of the man:

> All the seed which I myself have thrown broad-cast has not all *rotted* in the ground. Some of my feeble efforts must have prospered, even at this late hour of my day. Some very useful things would probably never have existed or been postponed to a late and chilling distance of time, but for my exertions. I cut the claws and wings of small pox, & in the venerable Dr. Sawyer's opinion uprooted if not destroyed several contagious disorders. . . . I am not, I hope, a boaster, but I have done my part.[1]

His epitaph might well have read: "*Invictus.*"

Born in Newport, Rhode Island, in 1754, Waterhouse received his training in the classics at the school founded by Bishop Berkeley. Among his classmates was Gilbert Stuart, the painter, with whom Waterhouse formed a warm and long-enduring—perhaps one should say, much-enduring—friendship. School years over, Waterhouse at about the age of sixteen entered upon the study of medicine as an apprentice to Dr. John Halliburton. His active and inquiring mind brought him to the attention of several of Newport's distinguished citizens, among them Judge Robert

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[1] Quoted by William Roscoe Thayer, "Extracts from the Journal of Benjamin Waterhouse," *Publ. Camb. Hist. Soc.* 4 (1909), 37.

Lightfoot, who apparently directed the young student's reading in natural philosophy, and Abraham Redwood, the philanthropist. After some five years of apprenticeship, another and more famous patron took a hand in his life: the great Dr. John Fothergill of London, a relative of Waterhouse's mother, invited the young man to complete his medical training abroad. In March, 1775, Waterhouse sailed for England. For the next six years, while the American Revolution ran its course, he studied medicine in London, Edinburgh, and Leyden, under such illustrious teachers as John Hunter, George Fordyce, William Cullen, and the second Alexander Monro. For a time he assisted Fothergill in his medical practice, receiving valued instruction from his learned relative. His studies did not stop with medicine: he acquired some knowledge of natural history, botany in particular; he attended the lectures of James Ferguson in experimental philosophy; after taking his medical degree at Leyden in 1780, he continued at that university for another year, studying history and the law of nations. Several of his vacations were spent in travels on the continent; in the spring of 1780 he is said to have accompanied the philanthropist John Howard on a tour of Dutch prisons and hospitals.[2] His introduction to Howard was but one of many similar favors which he owed to the patronage of Fothergill, whose great influence in the highest scientific circles of the day brought the young American student such acquaintances as Sir Joseph Banks, John Coakley Lettsom, Benjamin Franklin, John Haygarth, and Joseph Priestley. Fothergill's recommendation assisted Waterhouse at Leyden, also, in securing the friendship of John Adams.

Years later, in writing to one of his own pupils, then in London, Waterhouse observed:

> A prudent man can draw instruction from every place. The conversation of learning [*sic*], polished and agreeable men is more valuable than books. They are the "*living manners*," and are always usefull. Air, Earth, & the congregations of men are the pages for a young physician to study, and as there is scarce any book out of which something useful may not be drawn, so there is no situation from which something may not be learnt.[3]

Waterhouse no doubt thought, in writing thus, of his own years of training: certainly they had included much of books, but much also of conversation with wise and great men and of observant travels. When, after a long

[2] "Sketch of the Life of Benjamin Waterhouse, M.D.," by "R.," *The Polyanthos*, 2 (1806), 78.

[3] Benjamin Waterhouse to Mathias Spalding, Cambridge, October 21, 1801; autograph letter in the author's collection.

and eventful homeward journey, he at length returned to Newport in June, 1782, he was without doubt one of the best educated men in America. He had at his command the newest medical knowledge of Europe; his youthful enthusiasm saw no obstacles before him in the self-imposed task of transplanting to his native soil the great projects, both humanitarian and scientific, which he had seen at work in the Old World. One likes to think of him at this stage of his career, before discontent blunted the fine edge of his eagerness. Under happier circumstances, time and experience might have matured his character and focussed his purpose to some great end. The America of that day, however, was not ready for so ambitious a young physician. The doctor's place was in the sickroom: the lecture hall, the company of philosophers, the production of literary works, were not for him.

Waterhouse met with his first disappointment only a few months after his return home, when he failed in an attempt to organize in Rhode Island an humane society, like those he had seen abroad, for the dissemination of knowledge concerning the revival of drowned persons. The setback was only temporary; his hopes were strengthened by a flattering offer which came to him from the Corporation of Harvard College. A medical school was being organized, and Benjamin Waterhouse was asked to become the first Professor of the Theory and Practice of Physic. He accepted, though no salary was attached to the professorship and the pupils' fees were small; only after eleven years of service was a small stipend—four hundred dollars a year—granted him.

Waterhouse held the Harvard professorship for twenty-nine years resigning, under pressure, in 1812. During this period he gave his lectures in physic and maintained a medical practice for the support of his growing family.[4] In addition, in the interests of American science, he found time to carry on an extensive correspondence with his English acquaintances, securing from them both information and gifts to aid the development at Harvard of botany, mineralogy, and other sciences. He lectured on natural history himself, both at the College of Rhode Island and at Harvard. He labored to awaken interest in the establishment of a botanic garden and, from 1804 to 1808, published in the Boston *Monthly Anthology* a series of semi-popular essays on botany, adapted from his Harvard lectures and designed to enlighten the public mind on that subject. The importance of such studies in the American economy is vigorously stressed:

[4] Waterhouse married twice, and had four sons and two daughters.

Utility, public utility is the principal motive which has impelled [the writer], for a series of years, to hold up *Botany*, *Agriculture*, and *Mineralogy* to the attention of the rising generation. . . . A country like ours, filling fast with an enterprizing and ingenious people, and possessing *wood*, *iron*, and *hemp*, looking anxiously towards one small nation for protection to its commerce; and towards another with apprehension, is a singular phenomenon in the history of man.[5]

Ostensibly actuated throughout by motives of a patriotic or philanthropic character, Waterhouse sponsored a variety of projects throughout these years. On May 27, 1783, he read a paper before the American Academy of Arts and Sciences, proposing that American physicians undertake the preparation of a history of epidemic diseases.[6] In his inaugural address at the opening of the Harvard Medical School, he not only spoke of the importance of studying the sciences nearly allied to medicine, but also appealed "*most earnestly to the powers and virtues of the Commonwealth, to supply a desideratum, benevolently called for by suffering humanity, —I mean*, the study and restoration *of* '*the* MIND diseased'."[7] In 1785, in Boston, he again set to work on the establishment of an American humane society; the thing was now accomplished, but the would-be founder became piqued at the outset and withheld himself from membership for some years.[8]

So matters went during many years, the majority of Waterhouse's ambitious proposals falling on deaf ears. Then in 1798 came his greatest opportunity for transplantation, for innovation. In November of that year his friend and correspondent, John Coakley Lettsom, informed him of Edward Jenner's discovery of vaccination. Early in 1799, Lettsom substantiated his news by sending to Waterhouse a copy of Jenner's *Inquiry into the Causes and Effects of the Variolæ Vaccinæ* (London, 1798). Waterhouse was deeply impressed by the significance of the discovery and immediately appointed himself Jenner's American deputy. That he served well and diligently in this office there can be no doubt. He first satisfied himself as to the safety and efficacy of vaccination by a careful experiment on his own children; by assiduous study and practice, he perfected his technique in administering the vaccine. Then, sure of his subject, he began a determined crusade for the introduction o f vaccination in America. He contributed numerous articles to periodicals and newspapers, pub-

[5] *The Botanist* (Boston 1811) [144]–145.

[6] *Of Epidemic Diseases* (Cambridge, Harvard University Press, 1942).

[7] *Oratio Inauguralis, quam in Academia Harvardiana, Cantabrigiæ Novanglorum, nonis Octobribus, A. D. MDCCLXXXIII, habuit Benjamin Waterhouse* (Cambridge 1829).

[8] See preface to "The Principle of Vitality," *The Botanist*, [233].

Reproduced from a portrait in *The Polyanthos* (Boston) for May 1806.

lished books on the subject, established vaccine institutions, conveyed the vaccine matter to other physicians and interested persons, among them Thomas Jefferson. Waterhouse's scientific knowledge, his ready pen, the whole of his energetic nature, were enlisted in the cause. The difficulties were great: many of his professional colleagues, either from disbelief or jealousy, denied the value of vaccination or impugned Waterhouse's motives in sponsoring it; ignorant persons undertook to vaccinate, and their careless use of the cow-pox matter led to awkward accidents, arousing public resentment; moreover, the practice of injecting matter from diseased animals into human flesh was violently denounced in the churches as an attempt to bestialize humanity. Nevertheless, Waterhouse's purpose was duly accomplished; through his own labors and those of the men whom he had enlisted in the cause Jenner's discovery was successfully introduced into America.

This great contribution to American public health is Waterhouse's principal claim to a place of honor in medical history. It earned him some fame in his own time. Ironically enough, a relatively trivial contribution of a slightly later date, his *Cautions to young persons concerning health . . . shewing the Evil Tendency of Tobacco upon Young Persons; more especially the Pernicious Effects of Smoking Cigarrs; with observations on the Use of Ardent and Vinous Spirits in general* (Cambridge, 1805), appears to have been far better received and more widely circulated than any of his cow-pox publications. Even these triumphs must have been soured for him, however, by the constant criticism and questioning which his actions inspired among his enemies. It is difficult to trace, and, in so short a survey, impossible to discuss in full, all the factors which contributed to the decline in his fortunes. Waterhouse was a staunch, and certainly not a silent, Democrat in a stronghold of Federalism; he was educated and ambitious beyond the scope of his profession. Moreover, he was perhaps too ready to quote the European precedent to his colleagues, perhaps not sufficiently tactful in his comments on their ignorance or inexperience. As the years wore on, he became increasingly irascible and perhaps too alert in the defense of his personal rights and dignities.

Whatever the reasons for his fall from grace, the events are moderately clear. In 1807, President Jefferson appointed Waterhouse physician of the Marine Hospital at Charlestown; Jefferson's letter to Benjamin Rush on this occasion shows an awareness of Waterhouse's increasing unpopularity:

Dr. Waterhouse has been appointed to the Marine hospital of Boston as you wished. It was a just tho small return for his merit in introducing the Vaccination earlier than we should have had it. His appointment makes some noise, there and here being unacceptable to some; but I believe that schismatic divisions in the medical fraternity ar [*sic*] at the bottom of it. My usage is to make the best appointment my information and judgment will enable me to do, and then fold myself up in the mantle of conscience and abide, unmoved, the peltings of the storm.[9]

That Waterhouse deserved the confidence of the President is proven by the many improvements his innovating mind devised for the arrangement and government of the hospital.[10] In 1809, however, with the inauguration of James Madison, Waterhouse was dismissed from the position; apparently his removal was merely a result of the "spoils" system, but many persons were only too ready to put a worse construction on the matter. In the same year, at Harvard, Waterhouse was relieved of the lectures in natural history which he had originated, and was dismissed from his post as Keeper of the Mineralogical Cabinet, though the establishment of the collection was owing to his exertions. Finally, on May 14, 1812, the Corporation of Harvard College voted that Waterhouse be removed from his professorship. During these years of dissension Waterhouse wrote numerous letters to various influential persons, describing at length the persecution which he suffered. Of much interest in this connection are his letters to Benjamin Rush, whose acquaintance he evidently made through John Adams. Rush's position was in many ways analogous to that of Waterhouse: both men, after securing their medical training abroad, had found themselves hedged in by the narrow scope allowed to their profession in America; both were Democrats, subjected to the enmity of the strong Federalist party; they were somewhat alike even in temperament. Waterhouse, the younger of the two, appears to have perceived this parallelism; during his troublous times he thought of Rush, "for I suspect that you have experienced a treatment in a great measure, similar to what I am now enduring."[11]

Though thus cut off, at the age of fifty-eight, from the major concerns of his mature life, Waterhouse by no means either abandoned his ambitions or lost his spirit of enterprise. He derived his support from a not

[9] Thomas Jefferson to Benjamin Rush, Washington, January 3, 1808; autograph letter in the author's collection.

[10] See John W. Trask, *The United States Marine Hospital, Port of Boston* (U. S. Public Health Service 1940) 25 f.

[11] Benjamin Waterhouse to Benjamin Rush, Boston, October 12, 1812; autograph letter in the author's collection.

very extensive medical practice and from a government position as Post Surgeon (1813–21). Much of his time was devoted to reading and study; he published books on such diverse subjects as the identity of Junius[12] and the whooping-cough.[13] He edited for publication two journals by young men of his acquaintance, inserting, in each case, anecdotes and comments from his own fund of experience: the first described life in the British prisons during the War of 1812;[14] the second dealt with an ill-fated journey to Oregon.[15] In the 1820's he took up with great vigor the defense of Samuel Thomson, the discoverer of lobelia and of the Thomsonian system of therapy, and wrote numerous letters expressing his conviction of Thomson's worth.[16] Even in his very old age, his diary shows the survival of the reforming spirit. On July 8, 1839, when he was eighty-five, he wrote a comment on the "great need for improvement as regards treatment of our horses and other beasts of labor" in New England; two months later, he condemned the carelessness which led to the frequent fires of Boston and recorded his observations on the fire systems of the Dutch and English.[17]

Benjamin Waterhouse can hardly be thought of as a great original genius; in his temperament the imitative faculty predominated. As this brief survey of his life has tried to show, the greater part of his endeavor was expended in attempts to establish in America institutions and practices similar to those he witnessed abroad in his youth or learned of through his foreign correspondence. He was acute in grasping the significance of new discoveries and developing sciences, humane and patriotic in wishing to nurture their growth in America, energetic and able in crusading on their behalf. His personality and financial circumstances handicapped him sadly, yet he achieved much in his chosen way of life. His labors in the causes of vaccination and of natural history can be estimated and constitute a considerable contribution to American science. What cannot be computed is the effect his medical and scientific teachings had on his students at Harvard during twenty-nine years; surely many were fired by

[12] *An Essay on Junius and His Letters; Embracing a Sketch of the Life and Character of William Pitt, Earl of Chatham* (Boston 1831).

[13] *An Essay Concerning Tussis Convulsiva, or, Whooping-Cough. With Observations on the Diseases of Children* (Boston 1822).

[14] *A Journal of a Young Man of Massachusetts, late a surgeon on board an American privateer, who was captured at sea by the British, in May, eighteen hundred and thirteen* (Boston 1816).

[15] *Oregon; or A Short History of a Long Journey from the Atlantic Ocean to the Region of the Pacific, by land; drawn up from the notes and oral information of John B. Wyeth* (Cambridge 1833).

[16] See "Life and Medical Studies of Samuel Thomson," *Bulletin of the Lloyd Library of Botany, Pharmacy and Materia Medica* 11 (1909).

[17] Thayer, *op. cit.* (see note 1), 33, 34.

his enthusiasm as well as enlightened by his knowledge. The example he set before the public and his medical colleagues, also, must not be forgotten. A doctor actively interested in literature, science, and politics—not wholly absorbed in plasters and doses—that was a spectacle, indeed, in the New England of those days, and one sorely needed if the profession was to grow in dignity and importance.

The Influence of the Concept of Monomania on French Medico-Legal Psychiatry (from 1825 to 1840)

RAYMOND DE SAUSSURE*

ALTHOUGH René Sémelaigne has given us some useful monographs on the French psychiatrists of the 19th century, a history of the ideas governing the study of mental hygiene is still lacking. Gregory Zilboorg has endeavored to trace this history over a period of 25 centuries, but, whatever the merits of his book, it cannot furnish us with the needed details on any particular period, and particularly on the 19th century, which was so rich in ideas.

The concept of monomania is an interesting subject because, although clinically false, it had a great influence on medical jurisprudence. Before the work of Esquirol,[1] individuals who had committed crimes or misdemeanors were considered mentally ill only if they were in a state of actual delirium or dementia. No effort was made, as a rule, to ascertain their condition, because in such cases judges, juries, and doctors could easily diagnose it. Matters changed when the observation of doctors and judges was brought to bear on cases of partial delirium. It is the first medico-legal discussions dealing with this subject of monomania that I intend to describe here. As a number of pamphlets bearing on the subject are very hard to find, I shall include long quotations which will allow the reader to estimate for himself the ideas of the epoch.

Before taking up the discussions, let us examine the original descriptions given by Esquirol of homicidal monomania and lypemania. Before his time and throughout the 18th century, cases of partial delirium were described by the term of melancholia. But Esquirol, like Benjamin Rush, objected to this term because it implied a biliary etiology which was erroneous. That is why he abandoned the old term and replaced it by those of monomania and lypemania.

* Ecole Libre des Hautes Etudes and New York Institute of Psychoanalysis.

[1] Jean Etienne Esquirol was born in Toulouse in 1772 and studied there. He completed his education at Montpellier and came to Paris in 1799. There he worked at the Salpêtrière, where he became the favorite pupil of Philippe Pinel. In 1805, he wrote a thesis on the "Passions considered as causes, symptoms and curative means in insanity."

In 1817 he introduced the first teaching of psychiatry in France. He had many and very distinguished students, In 1825 he became Director of the Asylum in Charenton, and he wrote the history of that institution. He died in 1840.

Esquirol said:

> Lypemania and monomania are chronic cerebral affections, unattended by fever, and characterized by a partial lesion of the intelligence, affections or will. At one time the intellectual disorder is confined to a single object, or a limited number of objects. The patients seize upon a false principle, which they pursue without deviating from logical reasonings, and from which they deduce logical consequences which modify their affections and the acts of their will. Aside from this partial delirium they think, reason and act like other men. Illusions, hallucinations, vicious associations of ideas, false and strange convictions, are the basis of this delirium, which I would denominate *Intellectual Monomania*. At another time, monomaniacs are not deprived of the use of their reason, but their affections and dispositions are depraved. By plausible motives, by very reasonable explanations, they justify the actual condition of their sentiments and excuse the strangeness and inconsistency of their conduct. It is this which some authors have called *reasoning mania*, but which I would name *affective monomania*.
>
> In another class of cases a lesion of the will exists. The patient is drawn away from his accustomed course to the commission of acts which neither reason nor sentiment determine, which conscience rebukes and which the will has no longer the power to control. The actions are involuntary, instinctive, irresistible. This is *monomania without delirium* or *instinctive monomania*.[2]

Here, on the other hand, is the description which Esquirol gave of lypemania, a term which he used very seldom himself, and of which the writers of his time made small use:

> In lypemania, the sensibility is painfully excited or disturbed; the sorrowful and depressive passions modify the intelligence and the will. The lypemaniac fastens upon himself all his thoughts, all his affections; is egotistical and lives within himself. In monomania, on the contrary, the sensibility is agreeably excited. The gay and expansive passions react upon the understanding and the will. The monomaniac lives without himself, and diffuses among others the excess of his emotions.[3]

The types of monomania are named according to the subject of the delirium. Thus we have hypochondriacal monomania, religious monomania, and homicidal monomania when the monomaniac is drawn to murder.

This monomania has two distinct forms. In some cases the murder is provoked by an intimate but delirious belief, by the exaltation of the imagination, led astray by false reasoning, or by the delirious passions. The monomaniac is moved by an irrational motive, and he shows many signs of partial delirium of the intelligence or the affections. Sometimes his con-

[2] Etienne Esquirol, *De la Monomanie* (Paris 1838) 2.1.

[3] *Ibid.* 2.2.

science warns him of the horror of the act which he is about to commit, but the injured will, overcome by the violence of the impulsion, yields, and the man is deprived of moral liberty. He is the victim of a partial delirium; he is a monomaniac; he is insane.

In other cases, the homicidal monomaniac shows no alteration that is perceptible in intelligence or in the affections. He is driven on by a blind instinct, by something indescribable which urges him to kill.

All authors give examples of murders committed by monomaniacs, driven by a well-reasoned and thought-out motive, and these patients are sometimes careful to take precautions for the success of their act and even try to hide the proofs of it. Yet often they rejoice in the murder they have committed; they accuse themselves of it before the authorities, or show themselves impassive in the face of the victim.

Much more frequently than is supposed, even by the physicians, the affective faculties of the insane are perverted, indeed entirely suspended. The most moral of men possessing the mildest dispositions and the gentlest manners, and who were perfectly regular in their conduct, have confessed to me that ideas of homicide had tormented them during their delirium, particularly at the commencement of their disorder. These deplorable impulses are provoked neither by hatred nor by anger, as with furious maniacs. They are, on the contrary, spontaneous, fugacious, and foreign even to the habitual delirium. They are not produced from without, either by conversation or acts. A former magistrate has often remarked to me that nothing in the world would induce him to sit in a criminal court after what he had himself experienced during an attack of insanity.[4]

Such a condition is impossible, it has been said. Your monomaniac is merely a supposition; it is a convenient modern resource, whereby on the one hand the guilty may be saved from the severity of the law, and, on the other, a citizen may be arbitrarily deprived of his liberty. Everyone who is aware of his own existence can resist his own impulses, especially when they are horrible and repugnant to the feelings. Motives for resistance are to be found in religion, in social duties, in the fear of punishment, and so on. If he does not overcome the impulse, he is guilty. Man can only lose his free will by the loss of reason, and according to you these men are rational. But, I answer, if the intellect can be perverted or destroyed, the same is true of moral sensibility. Why should not the will, which completes the moral and the intellectual being, also be perverted or annihilated? Does not the will, like the understanding and the feelings, show itself subject to uncertainty, according to the circumstances of life? Do children and old men have the same amount of will power as the adult? Does not any illness weaken the will power? Do not passions soften or enhance the will? Do not education and other influences modify the use of the will? If all this is true, why is not the will subject to derangements, perturbations and morbid debilities however incomprehensible such condi-

[4] *Ibid.* 2.102 f.

tions may appears to us? Do we understand any better those diseases where intelligence or moral faculties are deranged?[5]

Esquirol describes three classes of homicidal monomania:

In the first, the individuals who have the desire to kill are actuated by more or less chimerical motives, more or less contrary to reason, they are recognized as insane by everybody.

In the second series, the insane homicides have no known motive, none either real or imaginary can be assigned to them, and the unhappy subjects of these observations are driven by a blind impulse which they resist, and they escape their fatal impulsions.

The facts which fall into the third category or which we might include in it are more serious. The impulse is sudden, instantaneous, unreflective, stronger than the will; the murder is committed without advantage or motive and often upon beloved persons.

Whatever the difference may be which the accomplishment of the act sets between these facts and those of other categories, we shall see that they only express in a greater degree the same disease, that they have remarkable points of resemblance, several common signs, and that they differ chiefly in the violence and the spontaneity of execution.

In all these cases the patients were incapable of killing before the sudden impulse; they were mild, honest and even religiously minded. In all of them, as in the obviously insane, a change of physical sensitivity, of character, and of way of life has been noted. In all it is easy to determine the period when the change of which we speak took place, and it is that of the outbreak of the illness.

The monomaniac immolates people who are indifferent to him or who have the misfortune to fall under his eyes at the time when he is seized with the idea of murder, but even more frequently he chooses his victims among those who are dearest to him.

When the monomaniac has accomplished his thought and has killed, the affair is over for him. The object has been attained and after the murder he is calm; he does not usually try to hide.

A student comes to believe that with two horses he could move the church of Saint Genevieve and take it elsewhere. You consider him insane because he judges falsely the relation between the resistance of the huge monument and the strength of the two horses. But do you consider as reasonable the mother who adores her child and yet plunges a dagger into its breast? Is there not in the unfortunate creature some alteration not only of sensibility but of the intelligence when, in

[5] *Ibid.* 2.804.

spite of her tenderness, in spite of the horror that her desire inspires in her, she prepares the death of her beloved child? At least we must agree that the will is perverted and overcome![6]

But this reasoning murderer is foresighted. Read descriptions of insanity, come into our insane asylums and you will find madmen who talk very earnestly, who talk very sensibly, who discuss very weighty subjects, who prepare a plot with much subtlety and perseverance, but whose acts are wholly disordered, whose affections are wholly perverted, who are dangerous to others and to themselves as soon as they are set at liberty.[7]

From the preceding descriptions, it is easy to see that Esquirol was not describing a single clinical entity, but several different conditions such as paranoias, schizophrenias, perversions and neuroses, and even cases of general paralysis. Consequently, many of his contemporaries refused to recognize the new malady (J. P. Falret and Brierre de Boismont, among others) and the lawyers might well be skeptical and protest against the attitude of the doctors who were, they said, endangering the very conception of justice. Actually, it must be recognized that Esquirol, in spite of his gift of observation, had much less clinical judgment than his master, Philippe Pinel. The latter had rightly insisted that the existence of a morbid condition could not be established from a single symptom, but must be based on the clinical evolution of the case. If Esquirol had been faithful to this principle, he would have understood that "partial delirium" was only a symptom from whose existence a morbid condition could not be postulated, and that the various cases of monomania evolved in very different ways.

His creation of the term resulted much more from his wish to give up the term melancholia, which seemed to him inappropriate, than from a desire to classify cases which did not seem to correspond to the existing psychiatric entities.

Although the theory of monomania had its opponents, it also had its defenders, among these Jean Etienne Georget (1795–1828), a faithful and devoted disciple of Esquirol. In spite of the tuberculosis which was wearing him out he spent his nights in writing, and though he died prematurely at the age of 33, he left an immortal work. Born in Vouvray, he completed his education in Paris when he was 20 years old and was one of the most active doctors at the Salpêtrière. In his first work, *Treatise on Insanity* (1822, p. 110), he gives to the term monomania an exaggerated significance. Under this title he describes nostalgia, fanaticism, that is to say,

[6] *Ibid.* 2.840–41.

[7] *Ibid.* 2.841.

the wish to make one's own religious beliefs prevail, eroticism, or the enhancement of the passion of love, and so on.

Georget was the first to examine the consequences of the new concept upon medical jurisprudence. We include some extracts from his writings of 1825 and 1826, and we will then examine the reaction which these writings had upon the jurists of that day. (See bibliography at the end of this article.)

> Does partial insanity or monomania destroy the criminality of an act and remove responsibility from the insane person who has committed it? Civil and criminal law have answered this question affirmatively by making no distinction between general insanity and partial insanity. (Civil code art. 489, Penal code, art. 64.) In this the lawmakers have been entirely right. Not only is this decision of the law just in principle, but it does away with a quantity of difficulties which would otherwise be insurmountable in its application.[8]

Georget goes on to point out certain characteristics of monomania which might be useful in medical jurisprudence:

> Insane people who seem perfectly rational in most matters have often committed all kinds of vagaries which have made their sequestration necessary, and the most skillful doctor cannot be certain that they will act in one way or another, or that they may not do things which are entirely contrary to their own interests, or highly reprehensible.[9]
>
> Patients who are irrational only on a single point may also be the victims of moral disorders which influence their conduct and all their acts, even though their judgment is not seriously impaired, as we will often have occasion to prove. These sick people often behave well while they are in an asylum living among people with whom they have no connection and against whom they have no prejudice or grievance, under the rules of the institution and an unquestioned authority which dominates them. These same sick people, when they are living with their families, may become insufferable. They are irritated by the least contradiction; they insult and threaten those who make the slightest remark to them. and they may go on to other excesses.[10]

Commenting on the calm of Henriette Cormier at the time of her trial, a calm which some of the lawyers considered to be incompatible with insanity, he writes: "This very calm is considered by doctors as one of the characteristics of homicidal monomania. Patients of this kind feel satisfaction and become quiet when they have at last carried out their plans. Only hardened criminals, accustomed to shedding human blood, or the insane, could have committed in cold blood and without the least emotion

[8] J. E. Georget, *De la Folie* (Paris 1822) 2.
[9] Georget, *Discussion Médico-Légale sur la Folie* (Paris 1826) 11.
[10] *Ibid.* 14.

a murder as horrible as that attributed to Henriette Cormier."[11] (She had killed, while in a state of depression and without apparent reason, her neighbor's seven-year-old daughter.)

Georget has a keen desire to enlighten the judges and the people of his time who still have a conventional idea of the insane. Therefore, his books are full of remarks like the following:

> People who do not often come in contact with the insane have many false conceptions as to these sick persons. They do not realize that the insane whose faculties are altered only in regard to certain subjects may talk rationally and sensibly on others. Yet this is a common phenomenon in insane asylums.
>
> To discover the delirium of these people, we need only allow them to talk, to write and act without paying any attention to them and then compare their way of living with their former condition, and we soon obtain proof of the disorder, often very deep-seated, which exists in their ideas.
>
> The insane may then act under certain circumstances just as would normal persons. Clear reasoning and good conduct are not, then, infallible proof of the absence of insanity, whereas a single insane act, a single fixed and unreasonable idea, is enough to characterize this illness.

Henriette Cormier had protested when the doctors accused her of insanity and the Ministry of Justice thought that this protest was a proof that she was not mad. To this Georget answers:

> It is well known that almost all insane people are unaware of their madness, believe that they are in perfect health, are angry if this is doubted and are conscious of their malady only when it has disappeared. The number of insane people who are conscious of their condition is very small.

In his books, Georget protests against the condemnation of many persons who were insane. Apropos of the pyromaniac, De Lepine, who had scribbled all over the written accusation which the judges had given him, he writes:

> Can it be conceived that a man who was conscious of the enormity of his crime and who, under the threat of capital punishment could not be without anxiety as to the outcome of his trial, should indulge in such childishness? That he should read and, as it were, retell his crimes with complete indifference? That he should read without trembling and averting his eyes so grave an accusation? That he hould consider as a source of amusement a document so serious? These scribblings, full of bizarre words, are the work of a child of five or six. They would be considered as a proof of stupidity, even of imbecility, from a boy of sixteen.[12]

These small signs of incoherence, these paradoxical reactions, strike the psychiatrist who lives among the insane and knows that the lives of his

[11] *Ibid.* 119.

[12] *Ibid.* 138.

patients are full of such acts which are valuable as symptoms. The lawyer sees in them only a peculiarity such as anyone might have, and he is little disposed to listen to the doctor. Georget takes pains to explain that his diagnosis is delicate but precise.

> Although in most cases insanity has unequivocal and obvious characteristics, are there not certain varieties of the illness which are hard to recognize even for the doctors, although the disorder of the mind may be constant and incurable? How then can men who know nothing of the phenomena have a valid opinion in such cases? Moreover, in these difficult cases, where the signs of insanity are not obvious, it is usually necessary in order to form an opinion as to the state of the person in question to examine a series of acts and speeches, to hear what his friends and relatives have to say, to make a kind of inquest upon his preceding words, conduct and acts. Briefly, to judge of the present condition, the past state must be considered.[13]

This explanation was really an answer to Adolphe Urbain Coste (1793–1828), a young doctor who was Georget's contemporary and who died in the same year, but whose career was very different. He fought in all the Napoleonic wars and was carried off by pneumonia shortly after his appointment to the Hôpital des Invalides, the military hospital of Paris. He would have been unknown if it had not been for two regrettable articles which he wrote on medico-legal problems regarding insanity. In one of these he wrote:

> If the law wishes doctors to be consulted on the question of insanity it is solely out of regard for custom, and the presumption that doctors have any special capacity in such matters is entirely gratuitous. The truth is that any honest man would be as competent in the matter as Mr. Pinel or Mr. Esquirol, and would have the advantage of being free from scientific prejudice. Unfortunately, the doctors have taken seriously the courtesy of the tribunals and in examining the questions brought before them, they substitute for the light of natural reason the ambitious ignorance of the schools.[14]

Marc, in his book *Insanity considered in its relation to medico-legal questions* (Paris, 1940, vol. I. p. 9) says: "The conclusion to be drawn from the opinions of Dr. Urbain Coste is that the less one knows of the science on which any matter depends, the better fitted one is to judge of it. I am quite willing to leave such opinions to those who like them."[15]

But Urbain Coste was not the only doctor to protest against the effects which the doctrine of monomania would have on the enforcement of law. Dr. Grand published a book in which he said: "The term homicidal mania

[13] *Ibid.* 102.

[14] Urbain Coste, in *Journal Universel des Sciences Médicales* 43 (1826) 53.

[15] Coste was also attacked in the *North American Medical Journal and Surgical Journal*, April, 1828, 457.

must be understood as a murderous fury, of which the world should be purged, and it was irreverent and wrong of Dr. Michu to blame the decision of a serious and prudent magistrate who concluded in favor of the death penalty against persons sated with human blood, whose defense Dr. Michu wishes to undertake on the pretext of an unusual physiological structure."[16]

Another anonymous author, writing in the supplement of the *Dictionary of Medical Science*, says:

An insane person who shows a tendency to murder must be confined, and those who satisfy these tendencies must be punished, not so as to prevent other insane people from committing murder, but because if a crime has been committed, the person who committed it must be punished. There is crime on the part of a madman when the means of carrying out the act have been weighed and carried out in order to satisfy a desire that is contrary to the eternal moral law. If insanity is to be made an exception, the law only intended it to be in cases where no motive for murder could be found.[17]

Among lawyers the protests against the idea of monomania and particularly against the absence of punishment for insane persons were much more violent than among doctors. Here are some examples. The lawyer Hannequin wrote in the *Gazette des Tribunaux* (Feb. 11, 1826):

One man plans the death of another and for him the idea soon becomes a dominant and a tyrannical one. At last the plan is carried out and blood flows. May he then invoke the idea of a criminal monomania to avoid the penalty which he has merited? Every man who is conscious of the act he commits is responsible before the law. Each is accountable to society for the use of his reason. The need to murder to satisfy passions or perhaps a system is not an illness or insanity. The doctrine of monomania tries to excuse crime by crime itself.

These lines from the pen of M. de Peyronnet, Attorney General, should also be quoted:

The Attorney General brought to examine the question of whether insanity of any kind should cause the guilty to be absolved, develops the matter with great lucidity and distinguishes between partial insanity and total insanity. He holds and demonstrates that only the latter can remove the criminal from the punishment of the law. This reasonable distinction, which can be presented by the public prosecutor, throws a great deal of light on the question of insanity, a very thorny one in medical jurisprudence, a question which certain physiologists have answered in a way as deplorable for the accusers as injurious to morality and alarming for society.[18]

[16] See Grand, *Réfutation de la Discussion Médico-Légale etc.* (Paris 1826), quoted by Georget.

[17] P. 259.

[18] These passages are taken from the brochure: *Affaire de Papavoine* (Paris 1825). The anonymous author of this pamphlet seems to agree with M. Peyronnet as the text shows.

Georget goes on to quote the above-mentioned pamphlet:

He (M. de Peyronnet) first refutes the theories which transform into simple acts of madness all murders which fill with horror, and which would tend to disarm society by a false pity in the face of the worst criminals; according to this idea, their immunity would be all the more certain that their crime would be an enormity. By transcending the ordinary conceptions of vice, by surpassing the limits of evil, they would ask Justice to absolve them because the darkness of their minds would be in proportion to the errors of their hearts, and their madness equal to their wickedness. Such doctrines could never be admitted into the sanctuary of the laws, and the true principles in regard to these matters need only to be recalled to a jury in order to protect it against such sophistical errors.[19]

The Attorney General said in the Cormier case: "Monomania, that bizarre affliction imagined by innovators, is nothing but a phantom imagined by innovators and brought into the arena. The decisions of a jury must not be based on metaphysical consideration or intellectual subtleties but on facts."[20]

Dupin, another lawyer, spoke in the same way: "Monomania is a modern resource which may be convenient on the one hand to snatch the guilty from the just severity of the Law, or on the other, to deprive a citizen of his liberty. When it is impossible to say 'he is guilty,' it could be said 'he is insane,' and Charenton would soon be as full as the Bastille."[21]

Georget takes pains to answer all these objections. He tries to show that the intention of the alienist is not to consider all criminals as mentally ill. A greater knowledge of psychiatry has allowed us to enlarge the boundaries of mental illness, but it has never preached impunity for crime. Here is part of his answer:

Crime is not an act of madness. He who commits a murder for his own interest, to steal or to revenge himself, is not in the same category as the man who becomes a murderer because of some disorder in his mental faculties, without any motive of interest, that much is so clear that all legislators have admitted it, and all acts of the insane are excused.

The insane are no more influenced by a condemnation or by the deprivation of their liberty than they were by the moral law or the social conventions. Imprisonment neither punishes nor amends them, but they are locked up with real criminals who may altogether corrupt them. Simple-minded, ignorant, lazy, without control over their passions, imbeciles readily become the instruments of genuine villains.

[19] Georget, *Discussion Médico-Légale*, 17.
[20] *Ibid.* 95.
[21] *Gazette des Tribunaux*, An 7, 1826.

With much common sense, Georget tries to show that it would be a good thing to leave the whole matter to the judgment of experts and give no unwholesome publicity to crime.

It is not by giving publicity and importance to such unfortunate events that their recurrence can be avoided. It is not by calling down on their authors the whole severity of the Law that the homicidal hand of the madman can be held back. On the contrary, by acting in this way the Court might end by causing an epidemic of homicidal mania. What could be done in this case? The most desirable thing would be to keep such affairs quiet by obtaining reports from qualified doctors declaring the insanity of the person accused, who could then be sent to an asylum. In this way, a long drawn out public trial could be avoided.

The only objection which could be raised is that there are no laws which allow the detention of the insane in an asylum after they have been declared cured, and therefore homicidal maniacs would have the right to demand their liberty, and it could not be legally refused to them. If they should have a recurrence of their malady, they might then commit new crimes. It should be noted that this danger exists in regard to all insane people, that the madman whose inclination has been discovered in time to prevent a crime is just as dangerous as the one who has actually killed. He has the same illness, and might equally be subject to a recurrence of it. Why should these two men be treated differently?[22]

These early writings of Georget, in which he defends the medical point of view against the attacks of the lawyers, show clearly how much psychiatry won from the debate. In the 18th century, doctors, even Pinel, tended to describe the symptoms of the most important types of insanity, in order to classify them as reasonably as possible. Pinel, who was far ahead of his contemporaries, added to this attempt at classification a clinical description which allowed a more efficient prognosis. Georget and the doctors of his day were faced with a more subtle problem, that of determining the limit of the normal and the pathological. In asking this question for the practical needs of the law courts, they were led to observe their patients much more closely. They tried systematically to find small signs which might be the forerunners of a more serious condition; they gave greater importance to anti-social acts which are not always associated with delirium but which do indicate incoherent and paradoxical reaction. These examinations greatly enriched the study of insanity.

The prejudices of the time were, however, hard to overcome. Society, especially at the time of the Restoration, was based far more on accepted

[22] Georget, *op. cit.* 117.

moral and religious rules than on the conclusions of sane reason, and therefore good citizens believed that a crime should be punished, even if it be committed by a madman. The ideas of Esquirol and Georget seemed revolutionary to the people of their own day.

Elias Regnault, a gifted but somewhat rash young lawyer, the temper of whose mind was legal rather than scientific, was to revive these discussions by publishing a book in which he summed up all the arguments of the lawyers and systematically attacked the new conception of medicine.

In 1828, Elias Regnault wrote a first essay entitled "Concerning the Competence of Doctors in Medico-Legal Questions relating to Insanity and the Physiological Theories of Monomania." This work was so successful that two years later Baillère published a second book of his called *New Reflections on Homicidal Mania, Suicide and Moral Freedom.* In that same year the two works were brought together in a single volume, from which the quotations which follow are drawn.

Regnault took up the thesis of Urbain Coste that doctors are not particularly competent to decide the degree of responsibility for insanity of people accused of crimes or misdemeanors. The idea was not new, for it had already been developed by Immanuel Kant in Germany. Regnault defended his point of view as follows: "If doctors really knew the nature and source of insanity there would be no further discussion, but there lies the question in which I am not afraid to declare against them." In a later part of the book, the author shows the contradictions which he was able to find among the alienists of the early 19th century.

Regnault's book seemed impertinent to most of the alienists of the period. It was considered almost as an insult addressed to distinguished men such as Pinel and Esquirol. Consequently, to judge his work solely by what the doctors said of him would be unfair. Many of his remarks are pertinent and show more psychological insight and logic than those of Esquirol and Georget. On the other hand, his clinical insight was poor and the criminals whom he would have punished seem to us today to have been really insane and irresponsible.

Regnault begins his attack: "A new word has been introduced into criminal law. In recent years monomania has constantly been invoked in the law courts. Lawyers have seized upon this medico-legal entity as a last hope in lost causes. Doctors have won new glory by exploiting it and the jurors have found in it a new source of uncertainty and hesitation in fulfilling a function which is already very difficult."[23]

[23] Elias Regnault, *Reflexions sur la Monomanie Homicide etc.* (Paris 1830).

When we come to the definition that Regnault gives of insanity we can understand that the arbitrary narrowness which he attributed to the term was incompatible with the idea of monomania.

> Reason can be destroyed by an affection or lesion of the organs of which it makes use, whatever these may be. In this case the incoherent desires which will appear in great quantity will all be carried into action because there is nothing to restrain them. Under these conditions insanity exists and a man is not responsible for his actions. . . . Reason may also wander because of a lack of vigilance on the part of the self. In this case the man is responsible because he failed to use the strength which he had himself to repress his desire; this neglect is the cause of all errors and all crimes.

This lack of vigilance may be due to the beginning of a mental illness of which it is a symptom, as well as to neglect on the part of the self. On this point Regnault reached his conclusion too hastily. Before criticizing him, however, let us examine the objections which he had in regard to monomania.

> If we were to allow, what seems to me inadmissible, that these various feelings (nostalgia, misanthropy, etc.) are symptoms of insanity, the term monomania which is applied to them would at least have the advantage of keeping its original meaning. But in that case we would need to find some other term to designate the man who, misunderstanding the relationship between the objects of his environment, lives in continual error as to his situation and his own nature. The man who, disgusted by seeing vice always triumphant and virtue unhappy, avoids contact with man, would be a monomaniac as much as the man who believes that his head is made of glass. Obviously, there is a general confusion, in a science where such different conditions are covered by a single term.[24]
>
> It cannot be said that a man is insane because he is dominated by a single idea unless this idea is the expression of a delirium. A man is not insane unless he has lost either the consciousness of his own being or way of being, or of his social condition or of the relations of outside objects to himself and to each other. Society is like an asylum in which each person sees himself as surrounded by madmen and imagines that he is the only reasonable creature. After all, no one is entirely rational, but this does not mean that everybody is insane. Yet the doctors have acted as though every man who is vicious or even ignorant was a madman. They have been led to look upon every error as though it were a total absence of reason, whereas it may be only a partial lapse of the rational faculty.[25]

Let us examine the first of these remarks. It is obvious that Regnault was right when he attacked monomania as an entity and pointed out that it contained many diverse clinical forms. On the other hand, insanity is often subtle and it is not entirely covered by the definition which the

[24] *Ibid.* 76. [25] *Ibid.* 78.

author gives of it on page 78 of his book. It is because he does not know the facts that he writes: "The doctors speak as though every man who is vicious or ignorant were insane." Regnault sets this fact apart, without mentioning the other elements which go to make a diagnosis, such as incoherence, incompatibility of ideas, paradoxical reactions, and so on.

Returning to Regnault's book, we find that he vigorously criticizes Esquirol's idea that in monomania the will alone is affected. He writes:

> Let them not talk about a lesion of the will when as a matter of fact the will is modified or injured at every moment of our lives, since in no man is it the same for two days on end, since its energy varies before and after a meal. If a disease of the will is allowed to be an excuse for crime, there will be no end to those who are to be excused and I defy anyone to trace a sharp line of demarcation between the different degrees of disease of the will from their beginning to their apogee, from the bad temper caused by indigestion to the impulse toward murder.
>
> Let us make no mistake, the law is almost never completely just. Out of 20 murderers whose punishment is the same, no two are equally guilty. The same act, Gall said, which is guilty and a just cause for punishment in one man may in another be the cause of pity. In order to evaluate the exact amount of guilt we would have to measure the influence of age, sex, state of health and moral condition, and a thousand other circumstances occurring at the moment of the illegal act.
>
> We would, no doubt, be fortunate if we could be judged in this way. But all would then depend on the arbitrary will of the judge and this judge would have to be free of all outside influences and prejudices, and also able fearlessly to read without error the utmost depth of the human heart. Where does such a judge exist among men? It is an impossible ideal, for men are constantly mistaken as to the causes of action more readily than in the acts themselves. Thus, in the eyes of the law, it is not feelings which are guilty, but acts. When these are to be excused, it must be because opinion has been thoroughly convinced that such indulgence is just. From what has been said above, it is obvious that monomania cannot possibly be allowed as excuse unless it is accompanied by delirium. If there is no delirium there is a perception of evil, and if there is perception there is a power of choice between the idea of homicide which attracts, and that of duty which restrains. This power of choice is free. He who, placed between good and evil, can distinguish them and chooses the latter, cannot be excused on the ground of the intensity of his motive or desire.[26]

Regnault's arguments have only the appearance of truth because he starts from the premise that anyone can be declared a monomaniac. If we read the expert testimony of that day we find that all the criminals whom Esquirol, Georget, and Marc, the three great authorities of the time, declared to be insane were really madmen, and an examination of the trials

[26] *Ibid.* 65.

of the period shows that a quantity of insane people were condemned to death. There was, then, truth in the statements of Esquirol and Georget, but their descriptions were still so fragmentary and often so superficial that they were unable to convince people who had no professional knowledge. Esquirol shared the mistakes of his day by separating too completely will, intelligence, and feelings, instead of describing a change of the total personality. Here Regnault saw more clearly and had noted that the symptoms which were given as characteristic of a lesion of the will were often nothing of the kind.

> The same confusion which science shows in regard to the different kinds of insanity is to be found in the variety of so-called homicidal maniacs. It is not the act (in the case of homicide) which indicates the type of insanity, but the motive for the act, and these two things have always been confused.[27]

This remark was highly judicious, although today we would take into account not only the motive of the act but the organization of the personality. Regnault sustains his point of view with an excellent example.

> If we look at the papers left by Bertet, we see that his madness lay in believing that he was being poisoned. He felt sharp pain, which filled him with feelings of anger and a desire for revenge. He discovered imaginary enemies and so created his victims. This was not a homicidal mania but a hypochondria revealed by the homicidal act, as it might easily have been revealed in some other way. The homicide was not the delirium; the delirium consisted in the disproportionate idea that Bertet had of his health and his own condition. This was so much the case that if he had not believed that he was being poisoned he would never have wished to kill anyone. Here, then, the symptom was taken for the disease, the effect for the cause.[28]

In the case of Anne L. . . (published in the *Gazette des Tribunaux* of September 9, 1827), a woman who had suddenly murdered her fellow worker as they were coming back from labor done under a hot sun, Regnault had approved of the verdict which condemned her to death although the crime had absolutely no motive. He writes: "Anger alone is never insanity. It may be and frequently is a symptom of madness, but to constitute insanity the anger must be preceded by some other idea or accompanied by some demented act. In itself it is not an excuse."

This remark of Regnault's proves that psychiatric problems cannot be judged from a purely theoretical point of view. The girl in question was not subject to violent anger; she seems to have acted under the influence of acute pain which may have released a sudden attack of dementia praecox.

[27] *Ibid.* 91. [28] *Ibid.* 98–99.

It is not only the idea of an isolated lesion of the will which Regnault attacks, but also the theory that passions can be considered as mental diseases. The alienists of 1825 were not clear on this subject; they were not able to establish that in certain morbid states the passions are exaggerated but that they do not in themselves constitute the disease. On the other hand, they were not yet able to demonstrate that in certain neuroses repressed passions were the essential portion of the mental disorder, although their intuition told them that such persons were irresponsible.

The insufficiency of nosological description was a cause of the misunderstanding between Regnault and the doctors whom he wished to confute. All that the lawyer writes is marked by good sense, but it is mistaken because he constantly puts the passions of a normal man and those of one who is mentally sick on the same footing. It is in this sense that the following remark should be read:

> According to this system, all weaknesses, all whims, all vices, would be monomanias. Where is the case of the frenzy of a man who, with exaggerated fear of illness and death, takes minute care of his health, uses constant precautions, and combats imaginary illness by medication? In this I see only feebleness of mind and cowardice—not insanity. This is not the first time that weaknesses have been called mania. Marked tastes also receive this name, such as melomania, metromania, bibliomania, which are old words that have long been accepted. It is only in recent years that it has become the fashion to make a madman out of one who loves music, poetry, or books with passion. The mistake of the doctors is that they have confused the word mania as it is used in current language with the scientific term of mania.[29]
>
> Do we need to prove that the hypochondriac is guided by the same passion and calculation, directed by the same reasoning, as other men? Where is the man who has never showed any trace of hypochondria, caprice or melancholia? A man is responsible before the law not only for his errors but for his weaknesses. Let us not forget this principle in which lies the solution of the question that we are considering.[30]

On the subject of the sick woman mentioned by Esquirol, who was able to keep herself from committing a crime, Regnault writes (page 53): "Say to this woman that she is mastered by crime, not by illness, and you will find that she will soon give up her claim to be called unfortunate, for fear that she might be called criminal. Show her that contempt and even the scaffold await her, and you will soon exorcise the demon which possesses her."[31]

In the article on insanity which Esquirol wrote for the *Dictionary*, he

[29] *Ibid.* 21.
[30] *Ibid.* 27.
[31] *Ibid.* 276.

says: "A young man courts a young girl, the parents refuse their consent to the marriage. He is sad, morose, and some months later, hearing that the woman whom he adores is to be married to someone else, he goes to the wedding lunch and kills himself there."

Regnault comments:

> I do not yet understand how anyone can find insanity in an act so reasonable, so natural to man, so easily explicable in its every aspect. Why need I find illness where I need only question the heart of man to find the motive for such an act? Will it be said that sorrow has taken such hold of him that he was no longer free? Such an argument could be applied to every need, every desire, every passion. It would be to fall in with those who deny the freedom of man.

It can be imagined that discussions on this subject were entirely academic and could reach no conclusion so long as the doctors themselves could not distinguish between conscious and unconscious motive. An act can have very different meanings according to whether the individual has been able to think it over freely or whether he has been driven to commit it by an unconscious force against which his conscious will has struggled in vain. Almost any single act of a madman, if taken alone, could have been committed by a sane man in a moment of aberration, and that is what caused Regnault's mistake, but the insane man differs from the sane one by the fixity, the incoherence, the irrationality of certain types of conduct. The following passage clearly shows the mistake of the man who has no professional knowledge: "People are determined to consider as insane any man who, braving use and wont, leaves the common way of those who surround him and behaves in a different manner, such as, for instance, changing or neglecting his attire. This merely proves that he prefers his own wishes and comfort to social considerations, or else that he wants to win a kind of notoriety. Diogenes was not insane, but lazy, and at the same time desirous of fame, and he made himself a new and easy variety of it."[32]

Although from this point of view, which is a theoretical one, we are obliged to admit that Elias Regnault was correct in a large part of his criticism, we must also recognize that in the basic question at issue, that of the incompetence of doctors, he was wrong. Most of the cases which he mentions and in which he considers that monomania was mistakenly invoked, are cases in which it is obvious to the doctor of today that acquittal would be certain on the ground of insanity. I will mention only one example here, but those who read Regnault's book will be aware of his

[32] *Ibid.* 59.

lack of clinical perception, which constantly leads him into error. For instance, he mentions the case of a woman described by Hoffbauer who poisoned the two daughters whom she had had by a first husband because her second husband threatened to turn them into prostitutes. This woman was pregnant; she was passing through a period of depression, and she was certainly very unhappy with her husband.

Regnault, instead of judging the situation as a whole, writes: "What has brought about the crimes of this unhappy woman? Simply the fact that she neglects her social duties to see only her duty as a mother." So stupid an answer shows that the young lawyer had no conception of what goes on in the hearts of human beings and no intuition of the feelings which animate an anxious mother. Starting with the idea that insanity is nothing but a lack of freedom, he writes: "Let us not forget that it has been declared to satiety that a mother who kills her children without motive is necessarily insane. This principle cannot be applied to the woman in question, who poisoned her two daughters to save them from the misfortunes which were in store for them. Where is the proof of a lack of freedom of choice?"[33] In this case the insanity was not in the act itself, which can be rationally explained, but in the state of depression which is perfectly apparent from the description given of it by Hoffbauer.

Regnault was able to prove, as against Georget, that the homicidal impulse exists in all men, since it appears in our dreams. But he had no dynamic theory of the unconscious by which to give a genuine interpretation of the facts. This is what he said:

> No desire is foreign to man's nature. We can easily convince ourselves if we reflect on what happens in our dreams. These dreams are the result of a partial sleep, during which some feelings and desires are still awake, while the self is asleep. Then, usually a quantity of queer, inexplicable and often cruel ideas which arrive in dreams are at once carried into action, because there is nothing to counterbalance them. The moral power which chooses is powerless and, as it were, absent, and the first impulse prevails.[34]

Because of his incomplete views, Regnault did not have the wisdom and generosity of Georget. He believed, like most lawyers, that punishment might have a moral value for the insane and that society should avenge a crime.

> Who can pretend that to call ill a man who steals instead of calling him a thief will, by a mere nomenclature, prevent him from stealing? It might even be thought that he would be more apt to err if he believed that he was yielding to a

[33] *Ibid.* 340. [34] *Ibid.* 204.

morbid impulse rather than to a vice. I hope it will be admitted that in either case the man must be confined, whether he is ill or criminal. Does it matter whether this confinement be called treatment or punishment?[35]

So direct and serious an attack on medical theories and on the principal authorities in the field of legal medicine could not leave the medical corps unmoved. Three newspapers published pleasant commentaries on the remarks of Regnault. They were: the *Journal du Progrès*, the *Journal Complémentaire*, and *La Bibliographie Médicale*. A majority of newspapers opposed Regnault's theses. These were the *Figaro*, the *Mercure du 19ième Siècle*, the *Archives de Médecine*, *Le Journal Hebdomadaire*, the *Annales de Médecine Physiologique*, *Le Journal Général de Médecine*, the *Annales d' Hygiène et de Médecine Légale*.[36] Leuret reproaches Regnault, above all, for his basic theory that good sense alone is sufficient in judging the insanity of an individual, and that the doctors have no special qualifications for discussing it.

> Mr. Elias likes to debate better than he likes to observe. His great mistake, a capital one, comes from the fact that he imagines that it is enough to recognize that an act is good or evil to be free to commit or not to commit it. If he could only be brought to doubt the value of his own knowledge on this subject which, I repeat, he has never studied. If he would remember that imagination often betrays us in science, he would look at the facts. . . . He declares that where consciousness exists there is freedom. This is an error which he would soon recognize. Consciousness and freedom are faculties which can exist separately. An insane person may know evil and condemn it, yet commit an evil act without being responsible. How can we believe so strange a fact? By seeing it.

This criticism brought a rather feeble answer from Regnault to which Leuret, in turn, responded. He insisted again on the fact that consciousness does not imply freedom and he mentions several cases of men who have had hydrophobia and who knew they were going to bite, but could not help doing so. Regnault writes: "How can we imagine a mania without delirium, when delirium is the one obvious characteristic of mania? How conceive a reasoning insanity, when insanity is precisely the absence of reason? This bizarre anomaly would in itself be enough to show how obscure are the ideas, how uncertain the conceptions of this branch of medicine."[37]

To this Leuret answers: "He (Regnault) has formed a priori an incomplete and mistaken conception of insanity and all that does not agree with this seems to him to be false. If he had seen clear lesions of the will, in

[35] *Ibid.* 253.
[36] *Annales d'Hygiène Publique et de Médecine Légale* 1 (1829) 281–92.
[37] *Ibid.* 3 (1831) 234 f.

which the power of reasoning is still intact, he would not speak as he does. He would admit the possibility of such conditions, even if his imagination could not explain them. He would cease to think that plain good sense is on the same level as actual knowledge in regard to disorders of the mind, and he would not call scientific prejudice the precise result of an observation of nature."[38]

In an article called "Observations on Suicide among the Insane," Leuret writes: "Is the belief in sorcerers and in possession insane? In our day and with the present state of our knowledge we can give no other name to such a belief. Yet it was at one time almost universal. Who was it that first called this belief by its right name? Those who in a report on sorcery said: 'Nihil a daemone, multa ficta, a morbo pauca.' Those who made this report established, in contradiction with their age, that sorcerers were insane people, and modern rationalism has fully confirmed this view."[39]

Leuret believed that in the future the idea of the irresponsibility of monomaniacs would be fully admitted; and though Esquirol's term has been abandoned, the diseases which he designated by it are today recognized as such.

Regnault was obstinate in his argument, as the following proves: "There are points on which the law courts cannot legitimately reach a decision without consulting those who are known to be skilled in the matter under consideration, and doctors must be consulted in cases of insanity."[40] "This reasoning," says Regnault, "would be correct if addressed to those who recognize doctors as able to decide in doubtful cases of insanity, but since that is exactly the point which is contested, the argument falls."[41]

To this Hippolyte Royer-Collard had already answered. "We are ignorant of many of the facts, it is true, but is that any reason for saying that the average man is not a hundred times more so? The mere habit of dealing with the sick already makes a vast difference. It is, therefore, not true, in my opinion, that medicine, ignorant as it may be of the ultimate truth which it seeks, is incompetent in the matter of insanity."[42]

Regnault continued the argument: "I maintain that the doctors do not know enough to come into the law courts to offer the help of their enlightenment."

[38] Quoted by C. C. H. Marc, *De la Folie* etc. (Paris 1840) 1.13.

[39] *Annales d'Hygiène Publique* etc. 5 (1833) 225–38.

[40] *Journal Universel des Sciences Médicales*, December and January, 1829.

[41] Regnault, *Reflexions*, 235.

[42] *Journal Hebdomadaire de Médecine* 18.181 f.

Time has shown that both parties to this discussion were wrong; that Regnault was mistaken in his diagnoses, but that the doctors had not yet given descriptions of insanity which were systematic enough to convince their adversaries. They often felt that a criminal was insane or driven by some irresistible force, but they could not yet establish the fact clearly. In the following years the doctors did succeed in making some precise diagnoses, yet they were often satisfied to oppose nothing better than theory to the arguments of Regnault, as the following passage from Marc proves. He answers Regnault by saying: "Insanity may consist in an aberration of all the powers of understanding in regard to one or to several subjects, or it may consist in a single lesion of the faculties, for perception, judgment, imagination, and will may be affected separately, or all together, and finally an alteration of the effective faculties of moral feeling which can be great enough to be considered as insanity, even if the intelligence is not affected."[43] And he goes on: "If mere good sense is not enough for Mr. Regnault, who has a good deal more than mere good sense, to understand a priori that current ideas on insanity are not accurate, that they are very far from understanding the many forms of this disease, we may be sure that it will not be enough to enlighten the members of future juries for whom his book is intended, and we will have to admit that in questions of medical jurisprudence relating to this subject, we must continue to look to the experience of those who possess it, that is to say, the doctors."[44]

Many doctors were aware that the question was not a simple one, but they believed that because of its very complexity, the use of experts, was necessary. Orfila (in a passage quoted by Bottex) says: "We are well aware of how hard it is in certain cases to form an opinion as to the existence of monomania and how dangerous it might be for society to apply injudiciously the principle that we are developing; it is, therefore, to the knowledge and probity of the doctors that the right to judge must be reserved in each case, and it is they who must give the law courts the only data on which an equitable judgment can be founded."

Royer-Collard says:

If I know nothing positive and if science can furnish us only with more or less vague conjectures, by what right do you pretend to be better informed than science itself, and declare what we would not dare either to deny or to affirm, on the sole basis of the light of reason? Doctors hesitate but lawyers decide—that is the basic error of Mr. Elias Regnault. He will not even allow that there may be a

[43] Marc, *La Folie* 1.18.

[44] In the above passage, Marc merely sums up or quotes the thought of Leuret, who answered Regnault at length in the *Annales d'Hygiène Publique et de Médecine Légale* 1.281.

question as to moral freedom, and seeks merely to determine in which cases it may be considered to have been destroyed by insanity and in which there is merely a revolt born of passion. He does not see that there is a preliminary question which his adversaries have decided in a sense opposite to his own, and that from this fact springs the constant opposition of principle that divides them. Nor does he see that in the present state of the sciences of philosophy and physiology most men would allow full freedom of examination.[45]

This generous point of view was, on the whole, just, but it was contrary to the ideas of Regnault who always maintained that the doctors knew so little that they could decide these matters no better than the judges.

Broussais' opinion is contained in the following passage: "It is often asked whether men who in other respects reason correctly but are violently impelled to murder or suicide, although these ideas fill them with horror, can really be called insane. I do not hesitate to say yes, for rationality does not consist solely in drawing a conclusion correctly, nor is it given us only to make us able to act correctly, but also to prevent us from doing evil. Now the man who has yielded to an impulse that he himself condemns has reasoned very poorly, for he has not been restrained by foreseeing the consequences. He has reasoned poorly as to his relation with others, or rather, he has failed to reason at all, which is the same."[46]

An exchange of arguments unaccompanied by facts has little value but, fortunately for the advance of the study of insanity, many alienists tried to multiply their data and in this way they contributed to the better knowledge of these diseases. Let us examine some of these studies.

Leuret, in his article on erotic monomania, writes: "As to monomaniacs with delirium, there are some of these (the greater part of them, in fact) who can reason perfectly on all subjects which are unrelated to their delirium. There are others who even on the subject of their illusion keep a sense of proportion, and reason with such speciousness that even experienced persons are taken in. There are other cases where the monomaniac hides his ideas, and if he is brought back to the subject of his delirium, he avoids all discussion of it because he feels that a trap is being set for him and that all that he says on the subject will be taken for insanity. Such monomaniacs are generally intelligent and keep the greater part of their intellectual faculties. Finally, there are other cases where the monomania appears only under certain circumstances, and it will be some accident,

[45] Royer-Collard, *Réfutation de la Doctrine de M. Elias Regnault.*

[46] Broussais, *De l'Irritation et de la Folie*, 456. (Quoted by Regnault, pp. 82 and 83. I have seen only the edition of 1828 of this work which has no p. 456, so that I have not been able to verify the quotation.)

some particular position or aspect of things which will bring on delirium."[47]

In an article by Coste we find the following passage: "I ask whether a madman who tries to hide his insanity is really insane. An understanding of one's own advantage and well planned methods of furthering it presuppose reason and there is no real paradox in saying that the consciousness of insanity precludes insanity itself."[48]

To this Georget answers:

> In the first place, although most insane people are unaware of their condition and believe that they are perfectly rational, there are others . . . who are quite aware of the disorder of their minds and feelings and are distressed by their position. Others have a vague idea that they are ill, and still others are aware of it only in lucid intervals or perceive only a part of their trouble.
>
> Secondly, insane people can be found every day who hide their delirium, even when they do not believe that they are ill. A madman who wants to kill himself will imagine all kinds of means for escaping from supervision which hinders him; he will even pretend that he has given up his fatal project in order to achieve his object. Such insane people have kept enough self-control to master their impulses before strangers and behave perfectly correctly. In insane asylums, the desire which the inmates have to meet each other either at meal times or in the salons or on the walks is often enough to induce them to control themselves.[49]
>
> In the third place, in certain acts committed by insane premeditation, planning, will power and great precision in the execution can be found. These are well established facts, based on specific examples which refute many of Regnault's theories and destroy for some time at least the arguments which judges even today are apt to advance.[50]

Georget, like his teachers Pinel and Esquirol, followed his assertions with one or two clinical cases which we have not space to include.

Leuret perceived how difficult was the problem, and took pains to describe certain cases so that the judges might better understand the complexity of what we call delirium.

> By analyzing each of the insane persons whose histories I have retraced, we see that a lack of vigor in the association of ideas is the essential characteristic of their insanity and that this characteristic may co-exist with visions and hallucinations, without being influenced by them, and is also compatible with complete lucidity, that it is sometimes complicated by incoherent acts and irrational expressions, but that the contrary may also be true, that is to say, that the habits of an orderly life may persist in spite of the incoherence of ideas, and lastly, that the incoherence seems to be more evident in writing than in talk. It

[47] *Annales d'Hygiène Publique* etc. 2 (1830) 198.

[48] *Journal Universel des Sciences Médicales* 35·57.

[49] Georget, *Nouvelle Discussion Médico-Légale sur la Folie*, 21.

[50] *Ibid.* 24.

seems as though in these incoherent persons the insanity is exterior, whereas the inner man can still reason. Something drives them on to talk and move. It is like a stimulus which they cannot master and which often gives them extraordinary energy.[51]

Without actually taking part in the arguments which sprang from the discussions of the day, J. P. Falret tried to throw light on one of the points involved:

We must now try to establish the limits which divide passion from insanity. The line is uncertain, yet it is important to trace such a demarcation between the two states, for often the cure and sometimes the very life of a person seized with partial delirium depends on the precision of this diagnosis. A mistake in such a case may result not only in retarding correct treatment and perhaps in creating an incurable condition, but also produce irritation, anger and hatred in the patient's family by causing acts and words which are due to mental illness to be attributed to perversity.

Passions have a real cause in the outside world, whereas in the case of insanity the cause may have been real in the past, but in the present it exists only in spontaneous perception, that is to say, in the nervous system and particularly in the encephalus.

In the case of the passions, however violent they may be, the disorder of feeling scarcely touches the intellectual faculties, and the association of ideas is almost too rapid and precise. In insanity, on the contrary, there is disorder of speech and thought side by side with the delirium of passion, and this disorder is often predominant. Instead of rapid association of ideas, there is more or less obvious and general incoherence.

In the case of the passions, acts are falsely interpreted and unreal motives are attributed to their authors; in insanity, people and objects are seen as other than they are, or seen when they do not exist in the sphere of sensations. With illusions of the mind as with those of the eyes there is no insanity if reason corrects the intellectual or sensory mistakes. But if the wildest conceptions and the most fantastic perceptions are considered as reality, then we are no longer in the domain of error but in that of impossibility, and insanity is certain.

Lastly, in the case of passion, the disorder of the mind, which is passing and limited to a single subject, is consciously perceived, whereas in insanity the disorder persists, is more or less widespread, and for this reason is not perceived consciously.

If a man who is usually a spendthrift acts in a way that compromises the family fortune no one will see insanity in his conduct. But if a man who is careful and almost miserly suddenly changes all his habits, beginning to spend wildly, his relatives may accuse him of being capricious or bizarre, but the outside observer will see the first signs of insanity.

Let us close the first part of this debate by quoting the wise words of Georget:

[51] François Leuret, *Fragments sur la Folie* (Paris 1834) 31.

It will be long before we will be able to convince the average man or the judges of the existence of certain kinds of insanity. But we must go on fighting for the truth. Time and perseverance are needed to scatter the darkness of ignorance.[52]

Such was the the first phase of the great debate. Esquirol had given a name to a new kind of mental illness; his pupil, Georget, saw how this idea ought to be used to free certain insane criminals and their families from the humiliation of a death sentence, and, lastly, Regnault, in the name of a large group of lawyers, protested against these new conceptions which, he believed, would shake the very foundations of public morality.

We must now examine the opinions of certain other persons of the day, who took some part in the discussions. Let us look first at the ideas of two distinguished legal lights who were known widely under the Restoration —Adolph Chauveau and Faustin Hélié:

It is essential to refute a theory which appears to us to be as mistaken as it is dangerous. In the first place it is not true that passion can cause a temporary disturbance of the faculties. The annals of mental hygiene have not yet brought to light a passing insanity which is born with and disappears with a dominant passion. Passions may be the cause of permanent disorders of the mind; they are, indeed, the most frequent and powerful sources of insanity, but it is impossible to find the signs of real insanity in mental disorders however serious, however apt to obscure the intelligence, if they are purely temporary, and disappear with what has caused them.

By putting passion in the same category as insanity we would justify immorality by considering it as a misfortune, by giving impunity to its errors. The unfortunate person whose mind has been altered by illness obeys mechanically a force whose power he cannot resist. The man who acts under the dominance of a passion has begun by allowing his will to be corrupted, and it is his will which, urged on by passion, has rushed into crime. The first of these persons is subject to an irresistible power; the second might have resisted but did not wish to do so. Even in the paroxysm of the wildest passion a man continues to distinguish between good and evil and knows the nature of his acts. Love, jealousy, revenge may overcome him, and he yields to the urgency of his desires, but he might have found in himself the strength to resist them.

Penal law must, then, be construed in the sense that the justification of a crime exists only in the case of people who are demented. Of course, under this term must be included all the shades of illness of the mind which medical science has recognized as insanity, but the condition which must exist to exculpate the doer of the act is that there should be disease complete or partial of the mental faculties. A disturbance of the senses which originates not in disease but in a frenzy or a failure of the will cannot be advanced as a pretext in a manner that belongs solely to disease. There can be no exception to this principle, and by

[52] *Op. cit.* 19.

confining it to its precise limits we give it great force when it is applied to the many varieties of partial insanity.

Yet, though the passions cannot be considered as attacks of monomania, we must recognize that they do not act upon the will, which they do not leave entirely free to oppose desire. Moral responsibility does not disappear, but it is weakened. Passions should, therefore, be considered not as the justification of a criminal act, but as lessening the penalty.[53]

This is an expression of the absurd theory of diminished responsibility. We discover that an individual is neurotic or insane and that, in consequence, he is more likely than a normal person to repeat the criminal act, and that imprisonment can only harm him. We will, therefore, punish him less than the normal man, but we will punish him a little none the less, instead of frankly admitting that he needs medical care and not punishment. The theory of the lesser penalty is as stupid in regard to the individual who feels impelled to repeat his crime as it is towards society, which it fails to protect.

Dr. Marc took up this question of passion and the lesion of the will, and reached a sounder conclusion than the judges whom I have quoted.

The theory which I have described as to lesions of the will is, in my opinion, quite in accordance with the facts, but I cannot hide the difficulties which its application would involve in matters of medical jurisprudence if it were to be used to enlighten the law courts as to the criminality of an act. How can a line of demarcation be established between acts resulting from lesions of the will, which should be called insanity, and acts which result from passion carried to the extreme? There can be no doubt that in many cases the intensity of certain passions may produce a genuine frenzy which temporarily destroys the power of the will.[54]

In contradiction with the theory of Chauveau and Hélié, Marc writes:

According to the rigid ideas of certain moralists, no passion is excusable. As a doctor we are far from accepting so absolute a thesis.We consider that innate passions are excusable in many cases, whereas acquired passions are almost never so. The former draw their strength from natural leanings, born with us and inherent in the normal organism, or from equally natural antipathies, whereas the latter spring from the vices which the necessities of social existence produce.[55]

A German lawyer, Hoffbauer, had a certain popularity in France, where his book was translated at this time. He defended an absurd idea which his translator, Chambeyron, understood at once. He writes: "There is no reason why a man who believes, for instance, that his feet are made of

[53] Adolphe Chauveau and Faustin Hélié, *Théorie du Code Pénal* 2.24.

[54] Marc, *La Folie* 1.88.

[55] *Ibid.* 1.103.

glass, but on all other points is perfectly sane, should be considered unfit to act, or should be excused for acts which do not touch on his particular manias, since his condition does not prevent him from practising a profession, from looking after other people's interests, from acting as tutor, etc."[56]

To this Chambeyron answers in a note on page 104: "This role might be valid if it were possible to determine the sphere in which a dominant idea can act and influence. But what psychologist would assert that one idea is entirely foreign to another and may not in certain circumstances be associated with it, even in the mind of a normal man, and even more so in that of an insane person?"

One result of the idea of monomania on medical jurisprudence was that the doctors came to insist on giving their opinions as to the mental condition of the accused, not only at the time of the trial, but at the time when the act was committed. This seems perfectly natural to us today, but it was not so at that time, as the remark of Chambeyron proves:

> This principle, which is beyond discussion, seems to be misunderstood by some of the courts which, in spite of the protests of the doctors and lawyers, will only accept reports as to the mental condition of the accused at the time of the trial. The law courts declare that by questioning the experts as to the condition of the accused at that time when the act was committed, they are making them into judges. This objection is ill founded. In a verdict, each authority has its own separate function. The jury decides whether the accused has or has not committed the crime in question; the doctors decide whether the accused does or does not belong to one of the exceptional cases foreseen by the law, and the judge enforces the general or the exceptional law. Jury, experts, and judge have cooperated in the verdict, and none have spoken to the exclusion of the others. The mental condition of the accused at the time of the trial proves nothing as to his state at the time when the act was committed. Either the court considers itself competent to judge on the question of insanity, or it does not. If it does consider itself competent, why does it require a report as to the mental condition of the accused at the time of the trial? If it does not consider itself competent, why does it insist on deciding the much harder question of the mental state of the accused at the moment of the act?

Few works on insanity had been published before 1840 in which an echo of these discussions can be found. The books of Dubuisson (1812), of Matthey (1816), and Foderé (1817), preceded the debates which concern us, and most of the men who wrote treatises at this period discussed some one particular subject. Some remarks on monomania can, however, be

[56] See *Médecine Légale Relative aux Aliénés et aux Sourds Muets*, by J. C. Hoffbauer, translated from the German by Chambeyron, with notes by Esquirol and I. Card (Paris 1827).

found in a book written by the eldest son of Philippe Pinel. Scipio Pinel (1795–1859) did not possess his father's genius, and he was rather unstable. He worked in the Paris hospitals and wrote several treatises on insanity in which he defended the point of view of the organists. His *Complete Treatise on the Hygiene of the Insane* (Paris, 1836) is the work which interests us. Written not long after the debate between Regnault and Georget, it presents an interesting point of view. Pinel first recalls the text of the law and the commentary made on it by his friend Calmeil. Then he, in turn, declares that the law ought to be modified.

There is neither crime nor misdemeanor if the accused was demented at the time that the act was committed, or if he was constrained by an irresistible force.[57]

Calmeil, as quoted by Scipio Pinel, says:

A man's life is at stake, perhaps that of several persons, and an illness according to which guilt or innocence must be concluded, and the law would leave us in ignorance as to the symptoms of the illness?

In asylums we see every day madmen who steal, who commit indecent acts, who try to kill the attendants, who wound or mutilate them. In every study of insanity, even in the briefest treatises on the forms of delirium, we are struck with the large number of dangerous madmen. Some persons have concluded that monomaniacs should be treated like harmful beasts of which society should be rid. Why not put on the same level the monomaniac and the frenzied person, as certain communities treated the aged and the infirm? You ask by what symptoms a lesion which chiefly affects tastes, sensations, impulses and subjective passions can be recognized? The doctors, who by their special vocation pass their lives in studying the slightest shades of moral and intellectual conduct, and in making observations, are the only persons who are fit to judge in such matters. They are the only experts who can be found to probe the sanity of an accused person.[58]

Recently, a closer observation has caused certain mental aberrations which men long regarded as merely normal to be considered as mental diseases, and the law should, in this respect as in all others, hail with gratitude these results, which are sanctioned by experience. Of course we are referring to the reasoning insanities, those manias without delirium, those monomanias, homicidal or suicidal, whose existence the courts have refused to recognize.[59]

Georget had foreseen the necessity of enlightening the judges on these little known forms of insanity, and it was the many examples of unhappy creatures who were insane but who had been executed which moved him, touched by such injustice, to bring together a large number of documents which have greatly influenced the verdicts given since that time.

[57] Article 64 of the French Penal Code.

[58] *Dictionnaire de Médecine*, 21ème édition, 2.160. Quoted by Scipio Pinel, *Traité Complet du Régime Sanitaire des Aliénés* (Paris 1836) 213.

[59] Pinel, *op. cit.* 215.

After recalling several cases that were famous between 1825 and 1828, Pinel adds:

> We may conclude from these facts, which clearly show the difference between criminality and insanity, 1) that leanings towards murder, theft, incendiarism, and other criminal acts, do exist and that they are genuine diseases, true monomanias. It is very important, in consequence, to distinguish such leanings from crimes which are the result of reason. 2) That there are murders, thefts, etc. which are the result of temporary aberrations, a delirium of the passions in which the aberration must be considered not as a justifying cause, but as an attenuating circumstance. Consequently, in the first case a man is ill and irresponsible, but because of the dangerous nature of the illness he must be confined for life in an asylum. In the second case, on the contrary, he is responsible for his acts since he might have avoided them, but he is up to a certain point to be excused, because of the temporary aberration of his mind, and he should, in consequence, be confined for life in a prison.
>
> There is mental disease in idiocy, imbecility, dementia, mania; there is a passing aberration in drunkenness and in passion; there is an emotional perversion in certain neuroses without perceptible deterioration of the intelligence.[60]

Although Pinel's conclusions are exact, he is not dogmatic. "When doctors who are in the habit of dealing with the insane do not feel that they can decide with certainty in cases of this kind, is it not astonishing to see judges and average men conclude without hesitation in one sense or another, decide with complete confidence on the question of insanity or sanity? It seems to us that in these difficult cases, where insanity is advanced as an excuse, the criminal ought to be held for some time under the observation of experienced doctors whose report might allow the judges to give a well-weighed verdict."

Two years later the first French treatise on the medical jurisprudence of the insane appeared. It was written by a contemporary of Scipio Pinel who was not a Parisian. Alexander Bottex came from the department of Ain and had studied at Lyons. He turned to the study of insanity only in 1830, and he became professor of psychiatry at Lyons where he died at a relatively early age in 1849.

Bottex was familiar with the work of Regnault. He recalls with indignation one passage of his. Regnault had said: "It cannot be denied that there are persons whose organization is such that they are liable to excessive anger. Education can get the better of this defect or organization. Anger will lead to homicide only in uneducated persons, and in that case it can be said that ignorance becomes a crime."

[60] *Ibid.* 268.

Bottex exclaims: "Can one imagine such a statement? We may gather from such reasoning to what excess prejudice may lead an intelligent man! As though it were not unfortunate enough for a man to be uneducated, now his ignorance is to be imputed to the accused as a crime, since he might not have been guilty if he had been enlightened. Ignorance should, on the contrary, be considered as an excuse or an attenuating circumstance."[61]

We find Bottex pleading for the irresponsibility of the mentally ill in various ways. Here are a few of his arguments:

> Every day we see children who have been brought up in the same way but who are wholly unlike. Some of them may be so gentle and so just that evil is repulsive to them; they would suffer if they did it, and they are happy when they can do something pleasant for those about them. Others, on the contrary, show opposite tendencies from their earliest years. They are conceited, vain, foreign to all feeling of justice or kindness, and only evil seems to attract them. Some are even so ill organized that religion, education, and punishment have no effect upon them. They are incorrigible, irresistibly drawn to evil. Sometimes they have to be put into reformatories, in order to cut them off from society, of which they are the scourges.[62]

Bottex also gives his opinion on the delicate question of the passions:

> To confuse the passions with insanity would be immoral and dangerous, for to consider passion as a passing insanity which precludes responsibility would encourage every crime by the promise of impunity. The man who was full of anger, tormented by jealousy, or unhappy love, outraged by injustice, was often not master of himself. He was like a madman, yet he was responsible for his acts, for it was for him to make efforts all the greater to avoid wrong action because he knew that his passions were violent.
>
> It is true that passions darken and distort our judgment, but they do not deprive us of the knowledge of the real relationship between things. A man who is dominated by his passions is not exactly insane, and the sword of the law must continue to hang over him as a further motive for restraining his evil leanings and overcoming them. Nevertheless, observation shows that there are men who, though good and just in their natural state, have no control of themselves as soon as they are angry, and in whom anger really is a kind of insanity. This may be the result of some particular sensitivity of the brain and nerves. There is, then, really a mixture of passion and insanity in their acts, as certain German jurists such as Henke and Hoffbauer have admitted.
>
> In these cases, it is clear that moral freedom is greatly limited if it is not entirely destroyed. It is for the legal authorities to decide to what point an individual, good and honest until that time, will have committed a crime which

[61] Alexandre Bottex, *Traité de Médecine Légale des Aliénés* (Lyon 1838) 29.

[62] *Ibid.* 5.

brings him no benefit in a momentary fury or frenzy, and to judge if attenuating circumstances should be admitted.

It is strange to find that Bottex does not here insist on the necessity of medical advice and seems to leave the matter to the jury. He gives no very precise criterion by which insanity can be distinguished from passion, but from his last paragraph one might conclude that he would willingly have agreed with the ideas of J. P. Falret: "There are cases where the symptoms of insanity become evident rather in comparing the individual with his usual self than with the rest of humanity."[63]

Bottex shows himself scrupulous, as a doctor would be who knows that the medical study of insanity is in its beginnings and who does not wish to come to conclusions too rapidly. "There are cases where even the most experienced doctor finds it hard to decide whether a certain accused person is to be considered as sane or insane."[64]

Bottex then discusses the case of semi-imbeciles whose ideas of right and wrong are not clear. He considers that such beings do not usually enjoy moral freedom, and should be acquitted.

"If they are condemned to prison," he adds, "they become more vicious through contact with perverted persons and come out of prison meaner and more tricky than they were when they entered. The best thing to do is to send them to asylums, where they should be kept busy with manual labor."[65]

In the case of a monomania with tendencies towards theft, the doctor must be very careful in his judgment, because there is always a direct interest in theft unless the object stolen is of very small value in proportion to the position of the accused. For a theft to be excused from the penalty of the law, we consider that the defense ought to prove positively that the accused was insane at the moment of the act. The case in homicide is not the same. It is clear that if a person who has been perfectly gentle and reasonable until then, suddenly becomes violent and kills one or more people, some of whom may perhaps be his nearest and dearest, insanity must be presumed.[66]

The concept of monomania greatly widened the field of medical jurisprudence in regard to the insane, and forced psychiatrists to make much closer and more systematic observations of insanity. The case history method of relying on a few outstanding symptoms, covering a limited period of crisis, was widened to include information as to the heredity and the psychological past of the patients, and descriptions not only of the

[63] Falret, *De l'Aliénation Mentale*, extract from *Dictionnaire des Etudes Médicales Pratiques* (Paris 1838) 16.

[64] Bottex, *op. cit.* 20.

[65] *Ibid.* 61.

[66] *Ibid.* 99.

wandering of their minds, but of their bearing and their aberrations. The fact that they were attacked gave the doctors a motive for defending themselves, and so greatly stimulated their researches.

As long as psychiatry, like psychology, was mainly interested in conscious phenomena and described the human mind in an atomic way, considering separately the will, the intelligence, the passions, it was impossible to solve the problem. Only when Freud completely revolutionized the approach to psychic phenomena could those medico-legal questions find a satisfactory answer. We may recall here that Freud, instead of stressing the importance of the conscious psychic facts, stressed the importance of the underlying unconscious reality, and, instead of studying the mental faculties, he became interested mainly in the dynamic connections between the different psychic phenomena. The forensic problem then becomes: How far was the crime motivated by conscious and controlled reasons, and how far by unconscious impulses?

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The Strange Fame of Demetrio Canevari, Philosopher and Physician, Genoese Patrician (1559-1625)

GEORGE SARTON*

I. Life of Demetrio Canevari

THE Canevari were members of an old family originating in Rapallo but later established in Genoa. About the middle of the fifteenth century a young boy, Demetrio Scordari, was captured by Turkish pirates in the island of Lemnos. His father, Leonino Scordari, was a Genoese patrician owning property or having trade connections in Constantinople, Crete, and Lemnos. After a few years the son was ransomed, brought back to Genoa, and married to the daughter of Matteo Canevaro. For some reason their children assumed the maternal surname, Canevaro, instead of their father's name; they were all in the silk business, yet managed to remain members of the nobility. The youngest of these Scordari-Canevari was one Matteo, born in 1490; the eldest son of Matteo, born in 1511, was named Teramo. This Teramo continued the family business, silk and wool, and various public offices were intrusted to him, chiefly one in the St. George Bank. He married Pellegrina Borsona by whom he had three sons, Demetrio, Gian Matteo, and Ottaviano, and lived until the beginning of the seventeenth century.

The most important of those sons was Demetrio, with whom this paper is concerned. He was born in Genoa on March 9, 1559. We gather from his father's diary (still available in Genoa) that Demetrio was admitted to the college of physicians of Genoa on April 6, 1580. The father described the solemn ceremony which took place on the following day in the church of S. Lorenzo, in the presence of the archbishop, the podestà, the magnificent rector, members of the college, and other dignitaries. Demetrio read an oration, and another oration was given by the magnificent rector. The father concluded his account of that glorious day with the pious words "All I need now is to pray God that He may give my son a long life, health, and make him a good servant of His, and a friend of the poor as I have recommended him to be." Demetrio began to

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practise medicine in his native city and on March 13, 1583 received the four minor orders from the archbishop himself; this was done without the knowledge of his parents who were much chagrined. Moreover, Demetrio assumed the Hieronymite habit. In 1584, he left Genoa to establish himself in Rome where he was to spend the rest of his life.

According to his earliest biographer (Rossi), Demetrio had approached the medical profession, not as an ignorant person but on the contrary fully armed with a great familiarity with Latin literature, a fastidious and wide erudition and, above all, a deep knowledge of philosophy.[1] No mention is made of his medical training, but apparently in those days and until the middle of the seventeenth century at least, a young physician needed literature and philosophy more than a technical education in order to distinguish himself among his fellow practitioners. That was especially true if he had social ambitions and wished to become a fashionable physician, acceptable to the leading families. It worked very well in Demetrio's case, for he soon obtained the patronage of the most learned and important people in Rome. His main patron was the Cardinal Giacomo della Rovere, but he attended other Cardinals such as Filippo Spinola, Evangelista Pallotta, and his fellow citizen Giambattista Castagna. The last named was elected Pope on September 15, 1590 and assumed the name of Urban VII. The new Pope was sixty-nine years old but in good health and a long papacy was hoped for. Unfortunately, he was very much tormented by mosquitoes during his first night at the Vatican[2] and even wished to move immediately to the Quirinal but was told that it was contrary to custom for a Pope to leave the Vatican before his coronation. He fell ill with the Roman fever and never left his rooms; he died on September 27.[3] His papacy had lasted exactly thirteen days. It is probable that Demetrio Canevari attended him from the beginning of his illness. He was given the very high position of papal archiater, but even if Urban VII appointed him just as soon as he had the power to do so, Demetrio did not hold that position more than thirteen days. As a matter of fact, the title of pontifical archiater does not appear on any one of his title-pages, nor on his tombstone, nor on his cenotaph. However, after Urban's death, Demetrio continued to move about the curia during the papacies of

[1] Gian Vittorio Rossi, *Pinacotheca imaginum* etc. (see Bibliography) (Leipzig, 1692) 209: Ad medicinae studia animum appulit, ad eamque, non ut quidam faciunt, nudus venit atque inermis, nulla cognitione rerum, nulla fere scientia ornatus, sed praeclare a Latinis literis, ab exquisita rerum multarum eruditione, ac praesertim a Philosophia, in qua fere sunt omnia, instructus accessit.

[2] The Vatican was in a very malarial district.

[3] For further details see Ludwig von Pastor, *History of the Popes* (1932) 22.317–350. No mention is made of Canevari.

Gregory XIV, Innocent IX, Clement VIII, and Paul V. He was not archiater to those pontiffs, but "Physician of the Company of the Holy Sacrament for the parish of Borgo," and that charge opened the Vatican to him and gave him various privileges.

In the meanwhile his success as a physician to the Roman prelates and nobles and to the rich families continued. If we may believe Rossi, Canevari, true to his Genoese and mercantile ancestry, was not satisfied to earn money in the exercise of his profession but knew how to lay it out to advantage. He became by far the richest physician of Rome. Unhappily, his greed increased in proportion; he spent money for books but naught else and lived very poorly, eating little and dressing in shabby clothes. His health had never been good, and was slowly consumed by Roman fever.[4] Two days before his end he was very angry with an old woman attending him, because she had given him a clean napkin to wipe his mouth, while an old and torn one would have done just as well. He died on September 22, 1625, having reached the age of sixty-six years and a half.

II. The Canevari Foundation

Demetrio's parsimony (Marini calls it *sordidezza e pidocchieria*) may have been partly caused by religious asceticism, but it was more largely due to more worldly passions, his love of the Canevari family and his desire to perpetuate it and himself, not only in heaven, but also in his beloved *patria genovese*. His motives are clearly expressed in the testament filed in the archives of a Roman notary on April 30, 1623, and the codicil filed in the archives of another Roman notary on September 7, 1625 (i.e., a fortnight before his death).

His first concern was to provide for two monuments to his memory, the first in S. Maria Traspontina (in the Borgo Nuovo near St. Peter's, Rome), the second in S. Maria di Castello in Genoa. The first monument was simply a stone placed over his tomb in S. Maria Traspontina; the tombstone has disappeared but the simple epitaph prepared by himself has been preserved. The second monument, adorning his cenotaph in Genoa and rather pretentious, can be seen to this day in S. Maria di Castello; it includes his own statue kneeling. Both inscriptions can be read in Fumagalli (p. 41). In the codicil Demetrio charged his heirs with the publication of his works. The main part of the testament concerned the establishment of a perpetual trust in favor of male and female de-

[4] Rossi, *op. cit.* 211–212: Secundissima semper fuit valetudine . . . . Longa ac lenta demum est febri Romae consumtus.

Fig. 1. Antoon Van Dyck. Portrait of a member of the Genoese Canevari family (c. 1622–25). Courtesy of Frick Collection, New York.

MORBORVM
OMNIVM
QVI CORPVS HVMANVM AFFLIGVNT
vt deceat, & ex arte curandorum accurata,
& plenissima METHODVS.
AVCTORE DEMETRIO CANEVARIO
PHILOSOPHO, ET MEDICO
PATRITIO GENVENSI.
In qua, omnia quæ continentur, & quò ordine pertractentur, ex partitione, & Indice mox sequenti fient conspicua.

VENETIIS, Apud Robertum Meiettum. MDCV.
De consensu Superiorum, & cum Priuilegijs.

FIG. 2. *Morbi omnes*, Venice 1605. Courtesy of AML.

DE
PRIMIS RERVM
NATVRA
FACTARVM PRINCIPIIS.
COMMENTARIVS:
IN QVO
Quæcunque ad corporum naturalium ortus, & interitus cognitionem desiderari possunt accuratè, sed breuiter explicantur.

HVIC ACCESSIT
Commentarius alter, in quo quidquid de corporum natura factorum principijs generatim iam perquisitum, discussumque est, id totum vna corporis humani; tandemque ipsius hominis procreatione clarius eluceſcit, exprimiturque.

AVTORE
DEMETRIO CANEVARIO
THERAMI FILIO
PHILOSOPHO MEDICO
PATRICIO GENVENSI.

GENVAE,
APVD IOSEPHVM PAVONEM.
MDCXXVI.
DE LICENTIA SVPERIORVM.

FIG. 3. *Prima principia*, Genoa 1626. Courtesy of AML.

OCTAVIANVS
CANEVARIVS
THERAMI FILIVS
PATRICIVS GENVENSIS.

Philoſophiæ, & Iuris vtriuſque Doctor Familiæ ſuæ poſteris ſalutem, & decus.

QValis, quantuſque vir extiterit Demetrius Caneuarius Frater meus, mandarem ipſe literis, ni vererer, nè fraterno præconio fidei aliquid fraternus amor derogaret. Veruntamen, vel me tacente, inſignia eius merita, ac laudes ſatis clarè prædicat eadem, quæ nouit, & ſuſpexit, præſens ætas; & memoriam recolet veri iuſta æſtimatrix poſteritas, nomenque perenne, vbicunque terrarum virtus in pretio fuerit, immortalis fama celebrabit; Nec ingrato vnquam ſupprimet ſilentio eum in Philoſophiæ, ac Medicinæ intimum ſacrarium

Fig. 4. Ottaviano's dedication to the Canevari. Courtesy of AML.

ARS MEDICA
SEV
CVRANDORVM MORBORVM
AFFECTVVMVE
PRAETER NATVRAM.
QVI
Corpus humanum affligunt accurata, abſolutaquè methodus.

ACCESSIT FEBRIVM CVRANDARVM EXERCITATIO,

Cuius exemplo, quæcunquè generatim in methodo obſeruanda proponuntur, ſpecialè vſu ipſo clarius eluceſcunt.

AVTORE
DEMETRIO CANEVARIO
THERAMI FILIO
PHILOSOPHO MEDICO
PATRICIO GENVENSI.

157527

GENVAE,
APVD IOSEPHVM PAVONEM.
MDCXXVI.
DE LICENTIA SVPERIORVM.

Fig. 5. *Ars medica*, Genoa 1626. Courtesy of AML.

DE LIGNO
SANCTO
COMMENTARIVM

In quo præcipuæ qualitates eius & facultates omnes exacta diligentia exprimuntur, ex illisq; lignum quoddam, quod nuper in Italiam delatum est, pseudolignum sanctum esse, & nullo modo verum, eius Fautoribus accurato examine demonstratur.

DEMETRIO
CANEVARIO
PHILOSOPHO, ET MEDICO
PATRICIO GENVENSI
Auctore.

A D
PAVLVM AEMILIVM
S. R. E. CARDINALEM
S. MARCELLI ILLVSTRISSIMVM

ROMAE, *Apud Guillelmum Facciottum.* 1602.
SVPERIORVM PERMISSV.

Fig. 6. Treatise on guaiacan, Rome 1602. Courtesy of Arnold Arboretum.

Fig. 7. Demetrio Canevari.

scendants of the Canevari family. Demetrio, being unmarried and childless, was providing for his brothers and their descendants. He was anxious that as many members of the family as possible should become scholars or physicians. An annual income of 480 lire was set aside to help Canevari boys who intended to study philosophy, medicine, or law; an income of 1500 lire was set aside for doctors of medicine and 1000 lire for doctors of law, always of course of the Canevari family, and provided their doctorate had been obtained in Genoa. If any of them were called to lecture in any university, he should receive 500 lire additional. The Canevari women would be given a dowry of 8000 lire. Should the male line become extinct, the trust would be used to give 400 lire a year to ten boys studying medicine in Genoa. Four Genoese physicians would receive 200 lire a year to visit the poor.

His rich library, including some 5000 volumes at the time of his death, was divided into two parts, the legal books being bequeathed to his nephew Giovanni Luigi (the son of his late brother Giovanni Matteo) on condition of his transporting them to Genoa for the use of his own sons. The other and larger part of the library, dealing with medicine and philosophy, was to be preserved for the use, not of the public as has been frequently repeated, but of the Canevari family. That library was to be kept in Genoa, in charge of two faithful custodians who were to be paid 40 lire a year. Demetrio added a series of regulations to insure the perpetuity and good order of his books. There is no point in copying them here; it will suffice to say that, in case of extinction of the Canevari male line, the books should be offered to the Jesuit Fathers, and, if the latter could not accept the conditions of the trust, to the Fathers of the Congregation of Somasca[5] in Genoa.

The Canevari trust still exists (or at least existed before the war) in Genoa under the name "Sussidio Canevari Demetrio." The male Canevari line controlled it until 1793 and was then replaced by the female line, and the purpose of the trust was broadened in 1834. A part of the income is still devoted to the descendants of a limited number of Genoese families, determined by elaborate genealogical investigations. In the account of 1901, the income was almost ninety-thousand lire. In a single century (1794–1883), the Sussidio Canevari spent a total of almost one and a

[5] "Congregazione dei chierici regolari somaschi," named after the village of Somasca near Bergamo, where it was founded in 1528 by Gerolamo Emiliani (1481–1537) of Venice. The order was confirmed by papal bulls of 1540 and 1568; its rule is Augustinian, its main purpose the education of poor children, orphans, blind children. The order is still active and its mother house is in Somasca.

half million lire for public charities in addition to the gifts made to the members of the Canevari and related families.

In spite of Demetrio's fastidious regulations for the keeping of his books, many of them have disappeared. The inventory made in 1870 registered only 1820 volumes out of the five thousand which he had bequeathed. From that time on the remaining books have been guarded more carefully, and it is probable that the present number is the same (1820) or not much smaller.

The Canevari testament is a curious document in many respects. The philanthropic part of it is not uncommon, but the other parts are a little puzzling. The entailment of a library to a family suggests a time when books were far less available than they are now. It requires some effort to imagine such conditions, for now every competent and well-behaved scholar is admitted without much difficulty to libraries infinitely richer than the Canevari collection, and the librarians are only too glad to witness the good use made of their treasures. Indeed, they often wish that more scholars would use them, for they realize that, precious as the books may be, the better they are used the more precious they are bound to become.

Poor Demetrio combined in his soul a strange devotion to the Canevari family, to learning, and to Genoa. The fame of Genoa can hardly be exaggerated, but he greatly overrated the importance of his family and of his library.

III. CANEVARI'S WRITINGS

Canevari's writings are not important, yet it is worth while to examine them rapidly. One of them will detain us a little longer in the next section.

1. *De rerum naturalium ortu atque interitu commentarium* (40 pp. quarto, Genoa 1583). Commentary on the origin and destruction of natural things. Demetrio began his medical career as a philosopher and this little book, dedicated to his brother Ottaviano, was meant to establish his philosophical reputation. It is a summary of Aristotelian metaphysics and of the theories of four elements and planetary attractions. The author was planning a companion volume *De homine humanique corporis fabrica commentarium*, which he did not publish himself; it was edited posthumously by his brother (see item 5).

2. *De ligno sancto commentarium* (144 pp., 15.5 cm. high, Rome 1602). Commentary on the holy wood. For the full title see our facsimile (Fig. 6) taken from the copy in the Arnold Arboretum, Harvard University. The book will be discussed in the next section.

3. *Morborum omnium qui corpus humanum affligunt ut decet, et ex arte curandorum accurata, et plenissima methodus* (small fol. 15 cm. high, 12+350 pp., plus 1 p. of errata, Venice 1605).

For full title page see the facsimile (Fig. 2) made from the copy in the Army Medical Library, kindly lent to me. This "method to cure all the diseases which afflict the human body" was the most elaborate of Canevari's works. It was meant to be a general medical guide, as contrasted with a discussion of special diseases one by one. It is dedicated by the printer-publisher, Robertus Meiettus (or Meliettus), to the illustrious physician Hortensius Zachis (Zacchia?), then a very old man. After a short preface (7 pp.), Canevari divides his book into three parts of increasing size. Part I, three chapters, 48 pp.: What is a disease and what is a symptom? Different kinds of diseases and symptoms. Part II, ten chapters, 116 pp.: Development of diseases and how to foretell them. All this is of very general nature, though a chapter is devoted to uroscopy. Part III, fourteen chapters, 177 pp.: This might be entitled general therapeutics.

One remarkable feature of this treatise, as distinguished from medieval ones having the same purpose, is that there are hardly any quotations. I did not come across a single one, but dare not say that there are none, for I did not read the whole book. There is a reference in the preface to Canevari's patron, Cardinal Giacomo della Rovere, but otherwise my eye did not catch a single proper name, not even that of Hippocrates, Galen, Celsus, or Avicenna. This is the more remarkable, because the author was a great collector of medical books; we must assume that he read some of them, if not all; he was anxious that his descendants should use them. Such a complete absence of references must be deliberate; it is a declaration of independence, if not of originality.

Of course, the ideas expressed by him being common property, the references were not necessary. The spirit of the book is Galenic and moderate (see, e.g., chapter VII of part III, pp. 245–59). These long chapters (average length more than 12½ closely printed pages), hardly divided into paragraphs, are difficult to read now (they would be difficult to read in English translation) and were never easy.

4. *De primis rerum natura factarum principiis* (small folio 10+178 pp., 29.5×19 cm., Genoa 1626).

For full title-page see facsimile taken from the copy kindly lent by the Army Medical Library. That copy is bound with a copy of item 5, printed at the same time and place in the same style. The two copies are bound

together in parchment, possibly by the publisher; the bound volume belonged previously to J. Ant. Mongiardini, M.D.[6]

The two items 4 and 5 were published posthumously by the care of Canevari's brother, Ottaviano, who added a dedication to the posterity of their family. That dedication covering four pages (see our facsimile of the first one, Fig. 4) contains a brief eulogy of Canevari and a list of his publications.

This treatise is an amplification of item 1. It is divided into twelve chapters (pp. 1–92), and is followed by a treatise on embryology divided into eight chapters (pp. 93–178). Though professing to explain physiology and embryology, both treatises are encumbered with metaphysical digressions and other irrelevancies. They are very heavy reading.

The Army Medical Library obtained in 1916 a second copy of item 4 alone, a copy de luxe, the top edges slightly trimmed and gilded, the other edges uncut. The pages measure 316×220 mm. This copy was owned by the medical historian and bibliographer John Stockton-Hough, quoted at the end of my bibliography. The binding is nineteenth century, three quarters morocco with marbled-paper sides and endsheets. I have not seen this copy and owe the description of it to Dr. Max H. Fisch.

5. *Ars medica* (small folio 29.5 cm. 14+327 pp., Genoa 1626).

For complete title see the facsimile (Fig. 5) taken from the copy in the Army Medical Library, bound with item 4.

According to the author's preface this is simply a new and better edition of item no. 3, which had appeared in Venice without his consent and contained many errors. There are four chapters instead of three in part I, eleven instead of ten in part II, fifteen instead of fourteen in part III.

The text of the *Ars medica* proper covers pp. 1 to 156. It is followed by Canevari's method of recognizing, foretelling, and curing fevers (pp. 157–326), divided into eighteen chapters, of which this posthumous edition was the first.

According to Fumagalli's description of this item (1903, 84) from the copy in the National Library of Naples, it includes Ottaviano's dedication of four pages, the same as was printed in item 4. The AML copy does not contain that dedication. It is possible that it was not inserted in every copy.

If the publishers bound some copies of items 4 and 5 together, they probably decided to include only one dedication. They may have offered for sale the following combinations ded.+4, ded.+5, ded.+4+5. Or else

[6] Unknown to me. The name occurs in Genoa.

another binder may have suppressed one of the dedications, as the second became superfluous.

6. *Transumptum testamenti et codicillorum quond. Mag. Demetrii Canevarii philosophi medici. Therami filii, patricii genevensis* (68 pp., quarto, s.a.l., probably Genoa 1626). Often reprinted. This is simply the text of Demetrio's last wills.

Various MSS of orations delivered by Demetrio at various times, from 1580 on, are preserved in the Biblioteca Civica Beriana of Genoa (see Fumagalli, 85).

To sum up, Demetrio's literary production was small and mediocre. No wonder that his contemporaries spoke but little of it, just mentioning the titles. The historians of medicine, even the Italians who paid more attention to their countrymen, even those of the eighteenth century who read Latin more fluently than we do, hardly did more than refer to him, if they did as much. The Italian historian, Modestino Del Gaizo (1854–1921), wrote a brief and lukewarm appreciation for Fumagalli (pp. 80–81). Though Demetrio's writings were more philosophical and literary than scientific or technical, their Latinity was not distinguished. His contemporary Rossi characterized it grudgingly as follows "Non fuit in illo Latine scribendi accurata ac diligens elegantia; sed neque est admodum inquinate locutus, ut mirum fuit in disserendo acumen, in re explicanda perspicuitas, in judicando prudentia" (3.212, ed. 1692).

The following copies of Demetrio's books are available in American libraries. No. 2 in Arnold Arboretum, Harvard University; no. 3 in Army Medical Library, Washington, D.C.; no. 4 and 5 in Army Medical Library and John Crerar Library, Chicago. Items no. 1 and 6 could not be traced in this country. There are no Canevari writings in Columbia and Yale Universities, the New York Academy of Medicine, the Boston Public Library, the Boston Medical Library, the Huntington Library.

IV. Holy Wood

The only one of Canevari's books which attracted a little attention, though not enough to be reprinted, was his treatise on the "holy wood." The subject was discussed considerably all over Europe during the sixteenth and seventeenth centuries by regular doctors and their patients, as well as by charlatans and their victims.

The "holy wood" (*lignum sanctum, lignum vitae*) was the guaiacan[7]

[7] Often spelled guaiacum to give that Indian name a Latin appearance. Linnaeus, *Species plantarum* (1753) 381: "guajacum officinale, habitat in Hispaniola, Jamaica."

imported from the West Indies in 1508 by the Spaniard Giovanni Consalvo.[8] It is told that this Consalvo having contracted syphilis in Naples sailed to America to find the remedy. It was generally believed that each country produced the antidotes for its own poisons; if syphilis came from America, the proper remedy for it should be looked for in America. He found that the natives were using guaiacan with great success, brought back a quantity of it to Genoa and sold it for eleven gold pieces (scudi d'oro) per pound. Consalvo became exceedingly rich, bequeathing a patrimony of three million scudi d'oro. Knowledge of the wonderful drug spread rapidly across Europe. Nicholas Pol, imperial physician, published in 1517 a treatise *De cura morbi gallici per lignum guayacanum*. A year later, the Austrian doctor, Leonard Schmaus, issued another pamphlet on the same subject. Schmaus reversed Consalvo's argument and regarded the presence of guaiacan in the New World as a proof of the American origin of syphilis (*Biogr. Lex. hervorrag. Aerzte* 5.90).[8a] Pol's treatise was communicated to the German humanist, Ulrich von Hutten (1488–1523), who having an urgent need of the new remedy, tried it and was moved to describe his own fortunate experience with it. Ulrich's book *De guajaci medicina et morbo gallico* printed in Mainz in 1519 was probably better written than that of the imperial physician, in any case

[8] His name is given in Italian because he lived in Italy and his curious story was first told by the Italian, Gabriele Falloppio (1523–62), Vesalius' disciple and rival, after whom the Fallopian tubes are named.——At the time of proofreading this paper I reached the conclusion that it would be better to leave the Consalvo story out. I had derived it from Benedicenti (p. 721, 1924), but it cannot be authenticated. Dr. Max H. Fisch kindly wrote to me (Cleveland, June 9, 1946) "The early history of the guaiac trade still puzzles me. I have never encountered an exact reference for the Falloppio version of the Consalvo story, and I have several times searched his works in vain for it. In any case, the story was first told not by Falloppio but by his teacher Brasavola (so far as I know) in 1551 (Luisinus v. 1, p. 611, col. 1) without the financial details and without dates. No version I know gives dates. To the best of my knowledge, the date 1508 is an inference from a statement of Delicado or Delgado, who (without reference to Consalvo) says guaiac was brought to Spain in 1508 and to Italy in 1517. Those who (like Freind) identify this Consalvo with Oviedo, are driven to a later date, 1515, for the first importation of guaiac to Spain. Whoever Consalvo was, I doubt if he brought guaiac to Genoa. Brasavola says he returned to Portugal. Unless he is identified with Oviedo, I know nothing to connect him with Italy at all, and Oviedo returned to Spain."

In another letter (June 10) Dr. Fisch added that though Brasavola's version (1551) is the earliest in which Consalvo is named, there is an earlier anonymous account of that story in Hutten (ch. 6, 1519): Nobilis quidam Hispanus cum Quaestor in provincia esset, ac morbo ipso graviter affligeretur, monstrata ab Indigenis medicina, usum eius in Hispanias attulit, primum anxius, ne non trans mare, qualis in Insula, esset eius effectus.

[8a] The statement in *Biogr. Lex.* is inaccurate. Says Dr. Max H. Fisch (letter dated Cleveland, June 9, 1946):

"Schmaus does not assert the American origin of syphilis, nor is there any evidence in Schmaus or elsewhere (so far as I know) that that notion was entertained by anybody as early as 1518. Schmaus says he thinks the disease has always existed in one form or another; that the West Indies have suffered from it for several years; and that an epidemic of it in Europe began with the bad weather of 1494."

it was far more widely read; it was frequently reprinted not only in Latin but in many vernaculars.[9] Not only was it more attractive, but it was also very convincing, for Ulrich von Hutten told his readers that he had fallen a victim to the French disease, had tried to cure himself with mercury and had caused the characteristic salivation eleven times without profit, but he had finally been healed with guaiacan. Toward the end of his book, Ulrich addressed his archbishop and kindly remarked that if His Grace got the French pox (which heaven forbid!, but one can never tell) here was a sure remedy which might be of use, or if unnecessary for himself at least it might be useful to members of his household. If this were not enough to advertise the wonder drug, Girolamo Fracastoro published in Verona in 1530 his famous poem *Syphilis sive Morbus gallicus*, reprinted at least eight times before the middle of the century.[10] This was one of the outstanding Latin poems of the Renaissance, and the only poem in the literature of the world after which a disease has been universally called! Its third and last book begins with a hyperbolic invocation of the guaiacan and is entirely devoted to it.

By the middle of the century the drug was admirably launched[11] and the syphilitic nightmare seemed to be ended; guaiacan was then the hope of mankind as the sulfa drugs are now, but with the slight difference that it was a fraud. This did not appear immediately, but as the number of frustrated patients increased, new methods of using the wood were introduced and various distinctions made, such as between the bark and the wood itself, new wood and old wood, this and that concoction, and so forth. We see the first symptoms of general disillusionment already in Fracastoro's *De contagione* (Venice, 1546, Bk. III, ch. X). The guaiacan cure was made more and more difficult; patients were kept in bed for a whole month and submitted to a starvation diet, the preparation and administration of the drug became more and more elaborate. In spite of everything the cure failed more often than not (we do not understand why it did not always fail); Ambroise Paré (d. 1590) declared that guaiacan did not cure syphilis. Then guaiacan together with another American plant, sarsaparilla, became used more and more for other affections and occult considerations tended to predominate as rational ones were driven

[9] The English translation, *Of the wood called guaiacum that healeth the French pockes*, was first printed in 1533; it was reprinted in 1536, 1539, 1540 (*Short Title Cat.* 14024–27).

[10] Some twenty editions appeared before 1600. Leona Baumgartner and John F. Fulton, *A Bibliography of the Poem Syphilis* (New Haven, 1935); *Isis* 24.437–39.

[11] Vesalius used guaiacan in his treatment of Charles Quint in 1552. Max H. Fisch, "Vesalius in English State Papers," *Bull. Med. Libr. Assoc.* 33 (1945) 239.

out. By the end of the sixteenth century guaiacan was already discredited in the opinion of the best physicians as a remedy against syphilis.

At that time Canevari prepared his own little treatise which appeared in 1602. Its purpose is sufficiently explained in the title-page. The failures in guaiacan cures were attributed to the substitution of a false drug for the genuine one and to wrong usage. There is only one kind of good guaiacan, he claims, and this is the same as lignum sanctum, but a considerable amount of false guaiacan is circulating in Italy. His first chapter is a history of the plant wherein many naturalists and physicians of the sixteenth century are quoted, mainly Ulrich von Hutten, Gonzalo Fernandez de Oviedo y Valdez (1478–1557),[11a] and Jean Fernel (1497–1558). Canevari was defending a lost cause but hopes die hard in the hearts of afflicted men and there were only too many believers in guaiacan whom it was easy to persuade that the cure had failed, because they had been cheated. From that point of view it is obviously impossible to prove that a definite drug is not what it pretends to be; charlatans and credulous doctors note carefully every success and ascribe any failure to this or that mistake. Canevari was an honest man, and if his methods of diagnosing the genuine guaiacan from the false seem inadequate today we can hardly blame him for that.

Before leaving this subject, full treatment of which would require considerable space, we may note that Canevari had been preceded by at least two other papal physicians both well known to him and referred to in his own treatise, the famous Antonio Musa Brasavola (1500–55), physician to many kings and popes, who claimed to have been the first to use guaiacan in medical practice,[12] and the less famous Alfonso Ferri, doctor to Paul III (Pope 1534–49), whose *De ligni sancti multiplici medicina et vini exhibitione* first appeared in Rome 1537. The main difference between the two authors is that Ferri wrote of guaiacan while it was in the ascendant, while Canevari took up the cudgels for it when it was declining.

In the *Histoire générale des drogues* (Paris 1694) of the French druggist,

[11a] "Gonzalo Fernandez de Oviedo y Valdés did not write any separate tracts on guaiac. The chapters which Luisinus had translated into Latin by a physician expert in the Spanish language, are respectively ch. 2 of bk. 10 of pt. 1 and ch. 17 of bk. 16 of pt. 1 of Oviedo's *Historia general y natural de las Indias*, Seville 1535. I believe there was never a separate edition of these chapters or of either alone." (Max H. Fisch)

[12] Unger in *Biogr. Lex. hervorrag. Aerzte* 1.680. That can hardly be true, but he was certainly one of the first, and perhaps the first in his own surroundings and to the best of his knowledge.——Writes Dr. Max H. Fisch: "Brasavola says various persons were the first to introduce the guaiac treatment in the various other cities of Italy and Europe, and he was the first at Ferrara, in 1526 (Luisinus v. 1, p. 611, col. 1, C). Since he mentions Hutten in the same context, he knew guaiac was used at Augsburg in 1518. All he claims is that he was the first to use it at Ferrara."

Pierre Pomet (1619–73), revised by his son, Joseph Pomet (Paris 1735), the article on guaiacan (1.127–28) contains no reference to syphilis, but the guaiacan gum is said to be one of the most active sudorifics. The diaphoretic property of the holy wood had of course been observed by sixteenth-century physicians, and was probably one of their reasons for belief in its anti-syphilitic virtue.

Having had the curiosity to consult the medical bibliographies of van der Linden (1637, 1651, 1662)[18] and Mercklin (1686), which give one a fair synopsis of medical literature in the sixteenth century, I found the following guaiacan writings which appeared prior to Canevari's death. The list is probably incomplete, but it is more than sufficient to illustrate the hold of guaiacan on medical imaginations. These writings are listed in chronological order; two of them are known to me only through their publication in the collection *De morbo gallico* edited by Aloisio Luvigni (Luisinus) in 1566–67; they may have been published separately before but had to be placed under the date 1566. The writings listed below include only those bearing a mention of guaiacan (or holy wood) in the title and two or three others referred to in my own text. Of course, guaiacan was also dealt with more or less fully, in a great many textbooks on medicine and botany and in every pharmacopœia.

Early Guaiacan Literature

Nicolaus Pol. De cura morbi Gallici per lignum guayacanum libellus (1517).

Dated, at the end, December 19, 1517; no copy of that edition (1517 or 1518) is known to me. The earliest known edition is that of Venice 1535, which was reprinted in 1536 at Basel and Lyons in a collection of treatises on syphilis. A part of Pol's library (33 volumes) catalogued by Maggs Bros. (London 1929; *Isis* 35.229) is now the property of the Cleveland Medical Library.

There are thirteen Pol books in the Harvey Cushing collection at Yale University. The Cleveland collection is the largest in this country and that at San Candido is the largest anywhere. Dr. Max H. Fisch is preparing a catalogue of the Cleveland items, which will include lists of the Pol books in other libraries (his letter, dated Cleveland, July 26, 1944). Meanwhile see Luigi Ferrari, Doctor Nicolaus Pol, la Collegiata di S. Candido ed i suoi incunaboli (Atti del R. Istituto Veneto, Venice 1936;

[18] The editions of 1651 and 1662 add nothing in this respect to that of 1637.

96 (2).109–69, 3 pl.), with a list of the 265 incunabula preserved in the collegiate church of San Candido (= Innichen) in the Italian Tirol.

LEONHARDUS SCHMAUS. Lucubratiuncula de morbo gallico et cura ejus noviter reperta cum ligno indico (Augsburg 1518).

ULRICUS DE HUTTEN. De guajaci medicina et morbo gallico (Mainz 1519; often reprinted).

JACOBUS ABETHENCOURT (of Rouen). Nova poenitentialis quadragesima nec non purgatorium in morbum gallicum sive venereum: unà cum dialogo aquae argenti ac ligni gajaci colluctantium super dicti morbi curationis praelatura (Paris 1527).

HIERONYMUS FRACASTORIUS. Syphilidis sive morbi gallici libri III (Verona 1530; often reprinted).

ALPHONSUS FERRUS (of Naples). De ligni sancti multiplici medicina et vini exhibitione (Rome 1537, Basel 1538, Paris 1542).

THOMAS PHILOLOGUS (of Ravenna). Malum gallicum . . . ligni indici, aquae, vini . . . ac additorum mundi novi et reliquorum modos omnes et facultates explicat (Venice 1538, 1545, 1575).

ANTONIUS GALLUS. De ligno sancto non permiscendo in imperitos fucatosque medicos (Paris 1540).

MICHAEL ANGELUS BLONDUS. De partibus ictu sectis citissime sanandis et medicamento aquae nuper invento. Idem, in plurimorum opinionem de origine morbi gallici deque ligni indici ancipiti proprietate (Venice 1542).

HIERONYMUS FRACASTORIUS. De sympathia et antipathia. De contagione et contagiosis morbis eorumque curatione (Venice 1546).

HERCULES BONACOSSUS. De humorum exuperantium signis ac serapiis, medicamentisque purgatoriis opportunis . . . De modo praeparandi aquam ligni sancti . . . (Bologna 1553).

NICOLAUS MASSA (of Venice). Liber de morbo gallico. Tertiae editioni addita sunt ab auctore de vi ac potestate ligni indici, de cognitione sarsae parigliae, de radicibus Chinae et hujusmodi alia (Venice 1563).

ALOYSIUS LUISINUS (Aloisio Luisini or Luvigni of Udine) De morbo gallico omnia quae exstant apud omnes medicos cujusque nationis . . . (2 vols., folio, Venice 1566–67).

The two following items dated 1566 are taken from this collection; they may have been published separately at an earlier date unknown to me.
CONSALVUS FERRANDUS (of Oviedo). De guajacano ligno tractatus unus;

de ligno sancto tractatus alter, ambo a peritissimo hispanicae linguae medico in latinam versi (Venice 1566).[13a]

JOHANNES MANARDUS (of Ferrara, 1462–1536). De morbo gallico epistolae duae et de ligno indico totidem (Venice 1566).

DEMETRIO CANEVARI (of Genoa). De ligno sancto (Rome 1602).

MARSILIUS CAGNATUS (of Verona). Opuscula varia (Rome 1603).

One of the opuscula is entitled *De ligno sancto disputationes binae.*

JULIUS CAESAR CLAUDINUS (of Bonn). Paradoxa medica, sive tractatus de natura et usu thermarum, lutorum, fovearum, stuffarum, guajaci ligni . . . (Frankfort 1605, 1660).

———. De ingressu ad infirmos . . . Accessit appendix de remediis generosioribus: nempe . . . III. De natura et usu radicum salsaeparillae, chinae, saponariae, cannarum vulgarium, item lignorum guajacini, sassafras . . . (Bonn 1612; often reprinted).

JOHANNES JUNCKER. Compendiosa methodus therapeutica quà morborum ferè incurabilium medicationes docentur, per solam diaetam et ligni guajaci diversimodè praeparati administrationem (Erfurt 1624).

Guaiacan already appears here as a panacea.

APPENDIX: GUAIACAN IN THE PHARMACOPŒIAS

Dr. George Urdang, Director of the American Institute of the History of Pharmacy, in reply to my request about guaiacan in the pharmacopœias and dispensatories, sent me the following letter March 17, 1944 and has kindly allowed me to reproduce it.

" . . . Guaiacum wood was retained in the pharmacopœias for a long time after its use as an anti-syphilitic had become definitely obsolete, because of its supposed effect on rheumatism and gout, as a diaphoretic, diuretic, and mild laxative.

"Lignum guaiaci or guaiac wood was listed for the last time in the *Pharmacopœia Belgica* of 1885, the *Pharmacopée Française* of 1884, the *British Pharmacopœia* of 1914, and the *United States Pharmacopœia* of 1893. It is for its supposed blood-purifying ('blutreinigende') quality that guajac wood is still to be found in the most recent edition of the *Deutsches Arzneibuch* (sixth edition, Berlin, 1926) and forms half of the official 'species lignorum' consisting of 5 parts of lignum guaiaci, 3 parts of radix ononidis, 1 part of radix liquiritiae (glycyrrhizae) and 1 part of lignum sassafras.

[13a] See note 11a, p. 408 above. I do not know the date of publication of the Spanish text, assuming that the letter was published.

"The decline and finally disappearance of the general use of preparations of guaiac wood as a cure (or in the cure) of syphilis can best be traced in the unofficial books appearing in the late seventeenth century and later in the vernacular, especially in France (Charas, *Pharmacopée Royale;* Lemery, *Pharmacopée Universelle*) and in England (*Dispensatories*). The English dispensatories, being commentaries upon translations of the official pharmacopœias, are of special importance in this respect. They do not take part in the discussion pro or con any therapy. They simply mirror the general opinion among the medical world of their period.

"You certainly know that at the end of the sixteenth century the enthusiasm following the first imports of guaiac wood to Europe gave way to some kind of disappointment. Nevertheless, Moyse Charas in his *Pharmacopée Royale Galénique et Chymique*, Paris, 1676, devoted a special chapter to the 'Distillation du Bois de Guajac' and described the 'vertus de l'Esprit de Guayac' i.e., a liquid prepared by distillation of guaiac wood, as follows:

> L'Esprit de Guajac est diaphorétique, à cause de la partie Saline volatile dont il s'est chargé dans la Distillation. On le donne dans les maladies Vénériennes & dans les Rheumatismes. . . . On s'en sert aussi pour la guérison des petits ulcères qui arrivent à la bouche et aux gencives tant dans les maladies Vénériennes que dans les Scorbuthiques.

Almost eighty years later, in the edition issued at Lyons in 1753 there is still the same wording.

"In the meantime, however, there had been some ups and downs in the evaluation of guaiac wood as an anti-syphilitic. R. James in his *Pharmacopœia Universalis or a New Universal English Dispensatory*, London, 1747, tells the following story:

> It was thought expedient to mitigate the Severity of the Regimen, and render the Decoction weaker, by which Means the Virtues of the Remedy were so far depress'd, that it was no longer effectual for the Cure of the Disease, so that Guaiacum which was at first receiv'd with so much applause, began to lose much of its Reputation, till the celebrated Boerhaave in his Preface to the Collection of Authors, on the venereal Disease, endeavour'd to revive its Use in the Cure of venereal Disorders, and gave it this great Encomium that it will perform a Cure where a Salivation has fail'd, whereas if Guaiacum fails, it is in vain to try a Salivation.

"John Quincy in his *Pharmacopœia Officinalis et Extemporanea or a Compleat English Dispensatory*, London 1722, is at least as positive. He says: 'In Venereal Cases it is said to do wonders; upon which account it has

obtain'd its name of Pock-wood.' The same statement is still to be found in the fifteenth edition of Quincy's *Dispensatory* issued in 1782. Here, however, it is followed by this restriction:

> It is not, nevertheless, capable of itself of absolutely curing the venereal disease without the assistance of mercury; though it greatly palliates the symptoms, especially in hot countries: but joined to mercury the same is thereby determined to the skin, and thence rendered capable of eradicating cutaneous poxes, which resist salivations, and all other methods hitherto known.

"It must be regarded as an exception that William Lewis in *The New Dispensatory* 'intended as a Correction and Improvement of Quincy,' London 1753 and later editions until 1785, makes no reference whatsoever to the use of guaiac wood as an antisyphilitic. He says:

> Their general virtues are those of a warm, stimulating medicine: they strengthen the stomach and other viscera and remarkably promote the urinary and cuticular discharge: hence in scorbutic, cutaneous, and other disorders proceeding from obstructions of the excretory glands, and where sluggish serous humours abound, they are eminently useful: rheumatic and other pains have often been relieved by them.

"A. Duncan (Sen.) in *The Edinburgh New Dispensatory* 'Being an Improvement of the New Dispensatory by Dr. Lewis,' Edinburgh 1791, repeats Lewis's statements almost literally, adding that the 'virtues' of guaiac 'are also laxative' and supplementing it with the following: 'Guaiacum in decoction has been said to cure the venereal disease; and in this country it is frequently used as an adjuvant to mercury.'

"One of the very few official pharmacopœias containing references to the therapeutical uses of the drugs listed, the famous *Pharmacopœa Wirtenbergica*, edition of 1786, described the virtues of Guaiac wood as follows: 'Siccat, sudorem et urinam promovet, sanguinem mundificat, et specifice ad luem veneream adhibetur.'

"A. Duncan Jr. in *The Edinburgh New Dispensatory*, Worcester, 1805, Edinburgh 1806, 1813, stated that guaiac wood is said to be useful:

1. In rheumatism and gout.
2. In certain venereal symptoms, as in foul indolent ulcers and a thickened state of the ligaments or periosteum, remaining after the body is reduced to a mercurial course. Guaiac will also suspend the progress of some of the secondary symptoms, but it is totally incapable of eradicating the disease.
3. In cutaneous diseases.
4. In Ozaena and scrophulous affections of the membranes and ligaments.

"It is certainly because of these statements of A. Duncan, Jr. that in

the first nine editions of the *United States Dispensatory*, i.e., from 1833 to 1851, guaiac wood was said to be used 'to obviate the unpleasant effects sometimes resulting from a mercurial course in syphilis.'

"In the 10th to 16th editions (1854 to 1892) of the *U.S. Dispensatory* the reader was told that 'more extended experience has proved it [guaiac wood] to be wholly inadequate to the cure of that disease [syphilis] and it is now employed simply to palliate the secondary symptoms, or to assist the operation of other and more efficient remedies.' In 1894, finally, in the 17th edition of the *U.S. Dispensatory*, we read: 'The general professional verdict is that it [guaiac wood] has no distinct influence in syphilis, nor yet in chronic rheumatism and gout, scrophula or cutaneous eruptions, against which it was formerly much used.' "

V. The So-Called Canevari Bindings

Many book collectors became interested in Canevari because of their enthusiasm for some very fine bindings ascribed to his own bibliophily. These bindings were of the type known as *legature a cammeo*, including a medallion of Apollo and Pegasus with the motto ὀρθῶς καὶ μὴ λοξίως (straight not obliquely). The American historian of medicine, John Stockton-Hough, having come across two such bindings became so enamored of them that he planned (in 1890) to devote a book to Canevari. Fumagalli's elaborate study (1903–1904) of the latter seems to have been initiated because of the same bindings. However, Fumagalli and Bellucci (1920) succeeded in proving that the bindings have nothing whatever to do with Demetrio Canevari. Their conclusions have been brilliantly summarized and fortified by Geoffrey Dudley Hobson, a director of Sotheby & Co., under the title "The Great Canevari Myth" (1926).

The bindings were certainly made before the middle of the sixteenth century, that is, many years before Canevari's birth! There is no evidence that he inherited books thus bound and there are no bindings of that type in the part of his library which has remained intact. The Canevari myth by the way did not start until 1861. (For further details see Hobson's study.) However interesting those bindings may be in themselves, they no longer concern the student of Canevari.

According to Hobson the real owner of the bindings was probably Pier Luigi Farnese, son of Alessandro Farnese (Pope Paul III); Pier Luigi was born in 1503 and murdered in 1547. Hobson has listed 104 such bindings; he warns us that there are also many forgeries, but gives us

means of separating the real false "Canevari" bindings from those which are doubly false.

VI. The Canevari Portrait

My own interest in Canevari began when I first saw many years ago the admirable portrait which is one of the proudest possessions of the Frick Collection, so rich in treasures of many kinds. In the *Summary Catalogue* (New York 1935) No. 38, p. 19, it is said to have been painted by Van Dyck during his first visit to Italy. The portrait having caught my fancy I decided to find out who Canevari was. Alas! my experience is very similar to that of the admirers of "Canevari" bindings, for it ends in the same way.

Anton van Dyck, born in Antwerp in 1599, traveled to Italy at the end of 1621 or the beginning of 1622. He first stayed in Genoa and painted portraits of Genoese patricians. Demetrio Canevari was established in Rome, but he may have paid occasional visits to his native city. Let us assume that he was in Genoa at the time of Van Dyck's visit, and that the latter painted him as soon as possible *au débotté;* Canevari was already 63 years of age at that time. We know that Canevari had taken minor orders, had assumed the Hieronymite habit, was in poor health, and miserly. Look at the portrait which the courtesy of the Frick Museum enables us to reproduce (Fig. 1); it certainly does not answer to that description. It represents a man rather young than old, say, below forty—a man of the world, elegant and fastidious.

If the portrait was actually painted by Van Dyck it cannot possibly be the portrait of Demetrio Canevari. On the other hand, if it were the latter's portrait it would have to be dated back to the end of the sixteenth century, and that does not tally with its general style and atmosphere.

The connection with Van Dyck is far more certain to my mind than that with Canevari. The portrait, I would say, is not only by Van Dyck, but an exclusive one, for it dates from the artist's youth when he was still doing all the work himself.

According to Gustav Glück's corpus of Van Dyck's paintings (*Klassiker der Kunst*, Stuttgart 1931, 346, 557), the inscription on a piece of paper at the left reads "Al Molto Ill^{re} S^{re} Pro^{t} . . . Canavero."[14] The book upon which the man is resting his right forearm bears the words "Hip-

[14] That inscription is not legible on the photograph and Dr. Frederick Mortimer Clapp, Director of the Frick Collection, did not throw any light on it. We may accept Glück's reading.

pocor. op.;" we may assume that it is a copy of Hippocrates' works; the open book seems to be an Aristotle. There is a third inscription on the stone pedestal SINE HIS which makes no sense as it stands. The painting was originally rectangular and was later cut to its present elliptical shape; it is possible that more letters could be deciphered under the frame.

The main inscription suggests how the Canevari connection was built up. Art critics noticed the name Canevaro. They knew that Van Dyck painted portraits of Genoese patricians, and may thus have painted one of the Canevari. Assuming that the man represented is a doctor (does he not lean on Hippocrates?) and a Canevaro, it might be, it ought to be, it must be, it is the great man of that family, the papal archiater!

If we accept the name Canevaro as evidence, and I am willing to do so, the man might well be one of Demetrio's relatives, for example, his nephew Giovanni Luigi (son of his dead brother, Giovanni Matteo) to whom Demetrio bequeathed his law books, charging him to keep them for his own sons in case they wanted to study law. Or it might be the portrait of Demetrio's other brother, Ottaviano, for whom he had compiled genealogical documents, who was his literary executor and added prefaces to his posthumous works. Ottaviano was probably younger than Demetrio, but not young enough I think to correspond with the Frick portrait.

Two portraits of Demetrio Canevari exist, both derived from the statue decorating the monument he had ordered for himself in Santa Maria di Castello, Genoa. That monument or at any rate his kneeling statue may have been carved during his lifetime (not an unusual thing, especially among Roman church dignitaries), but we are not sure. The portrait first published by Pescetto (1846) and reproduced by Fumagalli (1903, p. 36) and ourselves (Fig. 7) has a family resemblance to the Frick portrait. It might well be the portrait of an old man who had looked in his youth like the Frick portrait, but in that case the ascription to Van Dyck would be untenable.

My conclusion is that the Frick portrait should be labeled "Portrait of a member of the Genoese Canevari family painted by Van Dyck in the latter's youth."

VII. "THE GREAT CANEVARI MYTH"

In the eyes of his contemporaries, Demetrio Canevari was a highly successful physician, the richest in Rome, a miser, an eccentric collector of books. His writings added to his prestige, but not very much, for they

were not praised or discussed, they were hardly read except perhaps one of them, *De ligno sancto*, which may have attracted a little more curiosity. They added nothing whatsoever to our knowledge or to the graces of life and are now justly forgotten.

His posthumous fame rested not on his writings but on three other grounds:

(1) The fact that he was papal archiater. This is literally true, but he held that title for less than a fortnight, so short a period that he never had the opportunity of using it himself. He ceased to be papal archiater almost as soon as he became conscious of being one.

(2) The admirable bindings ascribed to his initiative. It has been proved that those bindings were made before his birth.

(3) The admirable Van Dyck portrait of "him" in the Frick Collection. That portrait either cannot be his portrait, or it cannot be a Van Dyck.

The three legs of his pedestal are all broken. Poor Canevari, who was so anxious to perpetuate the fame of his illustrious family.

This reminds us of the vanity of fame, or rather of its extreme capriciousness. Men are very unequal, and it would be very hard on them if their qualities admitted of measurement and of integration into a single measurable function; if that were so, they could all be put into a single arithmetical sequence *a*, *b*, *c*, *d* . . . , and it would be obvious that *d* is greater and better than *a*. Men differ in a million ways, and therefore they have a million chances of excelling. One may be the richest man of his time, or the most powerful, or the most handsome, or else the ugliest, or the most wicked. Many men have been immortalized not by their own deeds but by the deeds of artists reproducing their features in an exemplary manner. Who could ever forget Dr. Nicholas Tulp of Rembrandt's "Lesson of Anatomy"? Canevari's fate is even more curious. He was almost immortalized by the portrait of somebody else! *Requiescat in pace.*

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Chronological list of the early witnesses

1637	Linden	The fullest of those accounts by far is Rossi's, who may be trusted even if he was a bit prejudiced against Canevari.
1648	Rossi	
1667	Giustiniani	
1667	Soprani	
1680	Oldoini	

[15] The name is also written without hyphen; in Kelly's *Biographies* it is listed under Hough.

Students of Physic and Astrology

A SURVEY OF ASTROLOGICAL MEDICINE IN THE AGE OF SCIENCE

HUGH G. DICK*

A SECOND successor to Culpeper in the line of direct descent was the astrologer Joseph Blagrave, whose publications included a supplement to Culpeper's *English Physician* (1674) and *An Introduction to Astrology* (1682). His main effort, however, went into *Blagrave's Astrological Practice of Physick Discovering the True Way to Cure All Kind of Diseases and Infirmities . . . Incident to the Body of Man* (1672, again published in 1689).[35] Since this book is a fair sample of what the average text of astrological medicine contained, we may pause to examine it in some detail. It opens with a double dedication to the local Justice of the Peace and to the prominent court patron of astrologers, Elias Ashmole. The preface indicates that by the 1670's the astrological physicians were very much on the defensive, for Blagrave takes pains to argue that his practice *is* legal and that the resentment against him and the medicine which he professed was due to malicious rumors, probably of witchcraft.

> Kind Country men and Women, my thoughts are better of you then wholly to blame you, for I dare say it was either false reports, or ignorance of the way I profess, which caused many of you to be enemical unto me (edition of 1672, sig. A_8^r).

His principles are briefly these: without astronomy, one cannot be an astrologer; without astrology, one cannot be a philosopher; without philosophy, one cannot be a physician because the doctor must know the "five substantial Pillars" of nature—time, virtue, number, sympathy, and antipathy.[36] If, for instance, the doctor is ignorant of time, he may administer a cathartic "when the Moon is in an Earthy Sign, Aspected by a Planet Retrograde, and [when] the Ascendant with its Lord doth cor-

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[35] The printer of the 1672 edition was Obadiah Blagrave, whose catalogue appended to the end of the copy in the Huntington Library features such pseudo-medical works as Sir Kenelm Digby's account of the sympathetic weapon salve, six volumes of Culpepper, Wm. Ramesey on poisons, and *Aristotle's Problems*.

[36] Sig. B_1^r. Blagrave's dictum may be based on the well known image of the four pillars of medicine (philosophy, astronomy, chemistry, and ethics) in Paracelsus' *Paragranum* (Frankfort, 1565).

respond," in which case the purge becomes a vomit (sig. B_1^v). Similarly, the physician must master the sympathies of things so that he will know that Venus rules such plants as violets, white beets, white beans, spinach, and dandelions, and that herbs ruled by the Sun should be gathered on Sunday, those ruled by the Moon, on Monday, and so on through the seven planetary days of the week.

Casting the patient's medical horoscope is an exceedingly delicate affair, though the doctor has a little latitude here. He may calculate the horoscope on the time of decumbiture—i.e., when the patient decides to go to bed—or on the time when the patient's urine reaches the doctor's office. Under these conditions, in which the physician never sees his patient, Blagrave is bound to confess that both diagnosis and prognosis are often wrong, but he is ready with a list of excuses. Clocks may be off, the messenger with the urine may be delayed, or, embarrassing as it is for the astrologer, some cases perversely hold out longer than others. We are asked to sympathize with Blagrave's difficulties.

> Suppose a Man or Woman, who is under the dominion of Sol Lord of Leo, should fall sick, which represents one of a large stature, fat, full and fleshy, complexion sanguine, and yellowish hair. Now perhaps when the urine is brought, or through mistakes of clocks or time, Gemini should ascend, whereof Mercury is Lord, what a mighty difference could this produce: For the planet Mercury represents one of an upright and tall stature, spare body, long face and nose, of a dark swarthy complexion, and sad hair (p. 40).

In such a case one would diagnose the ailments ruled by Mercury, namely all nervous and pulmonary disorders, whereas the illnesses caused by the the Sun

> are all diseases of the heart and brain, palpitations, tremblings, sudden swoundings, Catars, the Nerves and Arteries, the right eye of Men, the left eye of women, and vital spirits of both; all infirmities of the eyes, and diseases of the mouth, rotten Fevers and stinking breaths (p. 78).

In the midst of such pitfalls it behooves the doctor to be sure of his calculations, especially "in many chronick griefs or infirmities, and in case of Witchcraft and Sorcery" (p. 40).

Pathognomy out of the way, Blagrave gives a full herbal (pp. 94–113), greatly indebted to Culpeper's and arranged alphabetically under the various ailments to be treated: "Barrenness, Belly-ach, Belly to looson, Belly to bind, Bladder to cleanse, Bleeding to stay" (p. 96). Few "griefs" are overlooked: "*Belching* four to repress: Aniseed, bitony, cammomil,

marjoram, wormwood, hares-foot, wood-bitony, burnett" (p. 96). Tobacco ranks almost as a panacea.[37]

Blagrave supports his principles by reference to his own case book. We learn, among other cures, of the miraculous restoration of Peter Wickenss of Tilehurst, Berks, "who could wagg neither hands nor legs" until he called in Blagrave, all "Physicians, Mounte-banks and others" having failed (p. 118). Within eight weeks his "dead-palsy" had yielded to an unbroken regimen of plants gathered under Jupiter and the Sun. Nor was Blagrave at a loss for thwarting witches, for he had seen counter-magic applied whereby the witch was found "shrunk up like a purse of leather put into the fire" (p. 152). He was master too of the recipe for the famous sympathetic salve (p. 134), and he was prepared to reveal such "philosophical secrets" as how to read the minds of those at a distance by the use of crossed needles (p. 160). One could hardly ask for a plainer confession of quackery. Yet there is this little to be said on Blagrave's behalf: whereas Heydon seems a charlatan begot by Rascality upon Ignorance, Blagrave seems simply ignorant. His mind moved within a lost world of medieval ideas, but his defence of his profession argues at least a wrong-headed sincerity.

Blagrave's work was paralleled by that of an even more voluminous publisher, William Salmon. Salmon's chief work was his *Synopsis Medicinae: Or, A Compendium of the Theory and Practice of Physick. In Seven Books* (1671), which sold 7000 copies in its first two editions and achieved a third edition by 1695.[38] In this octavo of over a thousand pages, Salmon has relatively little medical astrology, but issued as a necessary supplement a companion volume of over five hundred pages devoted entirely to that topic—*Horae Mathematicae, seu Urania. The Soul of Astrology . . . In Four Books* (1679). The list of his writings is long, and includes treatises on drawing and mensuration as well as on medical starcraft, but his annual publication, *The London Almanack* (1692–1706), affords the best glimpse into the nature of his practice. It is unique among contemporary almanacs in containing, besides the usual calendar, a running series of Physical Advertisements for each month, mostly of his own nostrums. These in-

[37] John Cotta, *A Short Discoverie of Several Sorts of Ignorant and Vnconsiderate Practisers of Physick in England* (1619), pp. 4–5, explains that competent physicians knew tobacco to be among the cure-alls which worked harm, but he adds: "with what high fame and great renowne was it at his first arriuall here in England entertained as an incomparable iewell of health, and an vniuersall antidote and superseades against the force and capias of all diseases, every man with the smoke thereof in his nosthrils, breathing the prayses and excellencies thereof in his mouth."

[38] The wide sale is noted in the edition of 1695, sig. A_8^r.

clude his Balsam de Chili (a panacea), Salmon's Family Pills and Family Powder, Salmon's True Spirit of Scurvy Grass, Salmon's Cordial Pill, Salmon's Eye Water, and, best of all, "Salmon's Panchymagoge Pills which cure the Pox and all its Symptoms, without Fluxing, at a few times taking: It is a nimble brisk Purger, and performs Wonders in that kind."[39] As a specialist in venereal disease, he carried on his practice appropriately enough at the sign of "the Blew Ball by the Ditch-side near Holbourn Bridge." Not all his cures were proprietary: he was willing to disclose, for instance, an infallible prescription against jaundice:

> Take fresh Goose dung 2 ounces, white Dung of Hens 6 Drams, Volatile Salt of Harts-horn 3 Drams, Juice of Celandine half an ounce, mix and make an Electuary. Dose 2 drams, every morning fasting in a glass of Wine, or Treacle-water, and sweating well upon it.[40]

But, like most quacks, he was truculent and prepared at any moment to assail his competitors as "Revelation-Men" and as "Goosequill Doctors, Recipe Doctors, or Knacky Doctors."[41] He carried on a noisy verbal war with one particular competitor, John Hollis, whom he accused of vending Salmon's Family Pills during the inventor's absence in the West Indies and of assorted other misdemeanors including libel.[42] One gathers that the Salmon family formed a small medical corporation which believed in advertising heavily, for William's *Synopsis* (1695) contains advertisements not only for his own skill but also for the dexterity of Buling Salmon, surgeon, in treating *fistula in ano* (sig. A_7^v). With William Salmon the profession of astrological medicine was obviously a trade.

So it was too with such country doctors as John Lamport, alias Lampard. This popular empiric lived near Portsmouth, but held weekly consultations at Chichester and Petersfield. His *Direct Method of Ordering and Curing People of that Loathsome Disease, the Small-Pox* (1685) was printed for the author and doubtless in part distributed by him as an advertisement. The pamphlet has all the marks of being an attempt to impress the barely literate. All medicine, Lamport explains, must begin with the observation of what sign the Moon is in, then "with what Aspect, and from what Planet the Moon is beheld" (p. 18). This entails a primitive explanation of the astrological qualities of each planet—for example that Mars is malefic whereas Jupiter is beneficent—in which account Lamport is

[39] *The London Almanack* (1692), sig. A_3^v and appended advertisements.

[40] *The London Almanack* (1692), under the month of May.

[41] *Synopsis Medicinae* (1695), sig. A_8^r.

[42] *The London Almanack* (1692 and 1693), *passim.*

careful to write out his astrological terms before using the appropriate symbols.

On much the same plane were the productions of Richard Saunders (or Sanders) of Leicestershire, whose popular volumes dealt not only with astrological medicine, but also with physiognomy, palmistry, dream lore, and divination by means of the moles on the body. Saunders is perhaps best known for his almanac, *Apollo Anglicanus* (1661), which was issued for over a century, being carried on by other hands after his death. He styled himself "Student in the Physical-Coelestial Sciences," and appears to have been chiefly a teacher of mathematics and surveying rather than a physician. Nevertheless, his book *The Astrological Judgment and Practice of Physick* went through two editions of 1677 and 1681. It was praised by William Lilly as "the most compleat and perfect of any of the Subject I have hitherto seen or read," and as a work which might do much to remove astrological medicine from "the Contempt and Opposition it has met withall."[43] Its merits were hymned in verse by two other popular astrologers, Lancelot Coelson and Henry Coley. Coley's doggerel rhymes have a certain interest as showing briefly the customary crude defence which was still offered for the practice. The appeal to ancient authority was thought unanswerable.

> Hippocrates and Galen in their time
> Were men of Fame, persons of no Design,
> And to this day are had in great Repute
> Amongst the Learned, who can this refute?
> These men well knew the Stars had Influence
> Upon all Humane Bodies; then from hence
> Withdraw all Carping Criticks, that deny
> The Great Aer of Sublime Astrology,
> Which unto such as have attain'd the Key,
> Shew the true cause of a Disease, and may
> Direct the Doctor Expeditiously
> The nearest Course to cure the Malady (sig. A_6^v)

Saunders begins with an essay "Of the Legitimate and Laudable Use of this Art" (sigs. b_2^r–b_3^v) which is altogether conventional. He explains that since God created the universe, to use His creation honors His divine power and wisdom. Everyone admits that the stars exercise great power upon all elemental bodies, animals, and vegetables, though, to be sure, the stars may be signs rather than causes of coming events, presages

[43] See the commendatory letter prefixed to the edition of 1677.

rather than powers in the divine scheme of things. Moreover, all branches of human knowledge are subject to error, including astrological medicine.[44] But the good astrological doctor never consults the stars "without confidence in God, or craving Divine Aid in Assistance." There follows a one-page chapter to stress the usual warning that the doctor must:

> never presume to give any Judgment or Sentence of this Art, except the time of day or night be exactly known, when the Sick person, or else some other in his behalf doth Consult with thee concerning his Disease, or the time he bringeth or sendeth his Urine to thee be assuredly known . . . (sig. b_4^{r-v}).

The body of the book is a perfectly methodical and detailed exposition of the basic astrological rules which a doctor should know, beginning with the nature of the planets and ending with uroscopy and purgatives. Saunders ends with an appendix on "Some Experiments of Sickness and Death," which gives the astrological data in connection with sixteen examples of uroscopy which had come to his attention—these as models for diagnosis and medication. One point in Saunders' favor is that he is business-like. But after witnessing the rank superstition evident in *Saunders Physiognomie, and Chiromancie. The Symmetrical Proportions and Signal Moles of the Body Fully and Accurately Explained* (1671) one can hardly consider him anything but the most benighted of occultists.

Aptly for the historian, the turn of the century produced the nadir of such books in David Irish's *Animadversio Astrologica: Or, a Discourse Touching Astrology* (1701). The work is divided into two parts. The first is Irish's defense of himself as a quack doctor. On the principle that the best defense is an offense, Irish harangues his colleagues on their charlatanism, follows this with a list of his own miraculous cures, and concludes with a fantastic set of essays on such topics as frenzies and the judgment day. The second half of the work is entitled "Astrology Theologized," the title alone being cribbed from a philosophic disquisition by the German mystic Valentin Weigel.[45] Irish's excursus is a farrago of crazy inconsistencies. He warns his readers against the predictions of star-gazers on the grounds that since the universe is in a general state of decay, the stars have lost their occult powers (p. 6). He then proceeds to deny his

[44] In defenses of astrology, variations of this particular point were endless. See, for example, Elias Ashmole's translation of a work by Spineus, Physician to the Duke of Mantua, in William Lilly, *The World Catastrophe* (1647), pp. 2–3, where Spineus says that all astrologers no more draw the same conclusions from the same heavenly phenomena than all physicians would when gazing at the same patient. In astrology, as in medicine, experience counts heavily.

[45] Weigel's work, which was translated into English (1649), is an important defense of astrology, but says nothing of astrological medicine *per se*.

own statement by discussing lucky and unlucky days. But his main concern remains a defense of astrological physic as he himself practiced it. His book shows him to have been, if sincere, feeble-minded.

So much for the textbooks on the pseudo-science. The vast diffusion of astrological medicine, however, was not due simply to them. There was in addition a wide range of popular books on psychology. Nearly all of these kept alive the humoral physiology of Galen, which was one of the groundworks of astrological medicine. Many of them frankly presented causes and cures in terms of the stars. The richest of the lot, Robert Burton's *The Anatomy of Melancholy* (8 editions, 1621–76), is so full of astrology that the legend went around that the author killed himself on the day his horoscope promised his death in order to verify his own prediction. Pierre de la Primaudaye's *The French Academie* (9 editions, 1586–1618) and David Person's *Varieties* (1635) are also notable for their emphasis on astrology. There was, furthermore, a large corpus of medical literature with a decided astrological bent intended for the peasant class. This consisted of such medieval compilations, endlessly reprinted, as *The Kalendar and Compost of Shepherds*, Erra Pater's *Prognostication Forever*, *Aristotle's Problems*, Albertus Magnus' *Secrets*, various "Isagogues," and "books of knowledge" like that by Samuel Strangehopes (1679). These rude compendia, some of which are published even today in paper-bound, catch-penny form, need not detain us. They consist mainly of folk beliefs (e.g., contraception is possible by copulating barefoot because the vital spirits will rush to warm the cold feet), but they include a fair proportion of astrological lore, especially about blood-letting. Matching these were the other books of knowledge turned out by hackwriters in need of the publishers' fee of thirty shillings. They neatly spanned the century from Thomas Lupton's *A Thousand Notable Things of Sundry Sorts* (5th edition, 1600) to Clayton's translation of Israel Hibner's *The Mystery of Sigils, Herbs, and Gems, Containing a Compleat Cure of All Sicknesses and Diseases of Mind and Body, by Means of the Influences of the Seven Planets* (1698). We are here in that underworld of medical and occult literature in which ideas remain unchanged from century to century. It is, to paraphrase Tennyson, a land in which all things always are the same.

The vast diffusion of astrological medicine was encouraged finally by one book which was in every man's pocket—the common almanac and prognostication. A casual census of seventeenth-century almanac-makers reveals over twenty who signed themselves "Students in Physick and Astrology," ranging alphabetically from Hyram Alleyn to Augustus

Upcote. The almanac of John Dade, "Practitioner in Physick," for example, spanned ninety years of the century.[46] Even at the end of the period, when astrological medicine was beyond hope or defense, the almanacs show how widespread the practice of it was. An extraordinary run of almanacs for the 1690's, now in the Huntington Library, furnishes us with abundant evidence. During this decade in London alone no less than a dozen practitioners were advertising themselves as students in physic and astrology: J. Blanchard, William Smith, John Partridge, William Salmon, Daniel Woodward, John Gadbury, Henry Coley, John Tanner, William Andrews, William Cookson, Francis Moore, and John Case.[47] Most of these men compiled almanacs. Most of them practiced among the very poor and were furtively consulted by those who were, as the phrase goes, "in trouble." They specialized in genito-urinary ailments and sometimes accused each other of being abortionists. Some of them, like Henry Coley, who practiced for a quarter-century "in Baldwin Court, over against the Old Hole in the Wall in Baldwin's Gardens, near to Grays Inn Lane," ran a busy trade in astrological sigils, some of which were sold at four shillings as magical contraceptives for servant girls.[48] Demands that they be prosecuted for witchcraft and sorcery went unregarded. Moreover, the same students in physic and astrology claimed sympathizers and patrons among regularly qualified doctors: Sir Thomas Browne, Robert Wittey, author of *Astromachia* (1677) and a number of Galenical tracts; William Ramesey, medical writer and Physician in Ordinary to Charles II; Francis Bernard, bibliophile and Physician in Ordinary to James II; John Betts, Physician to Charles II and Censor of the Royal College of Physicians; and Thomas Gardiner, Surgeon to the Royal Household of William and Mary.[49]

At this point one may well ask: if astrological medicine had all this

[46] The longest lived of them all, *Old Moore's Almanack*, began in 1699 and has appeared every year since. It originated, like Salmon's *London Almanack*, in the author's desire to advertise his own medical practice. Francis Moore, the first compiler, was a physician, astrologer, and schoolmaster in Lambeth.

[47] This list omits the many empirics who were advertising without stating openly that their practice was astrological.

[48] See Coley's *Merlinus Anglicus, Jr.* (1694) and the accusations in John Partridge's *Merlinus Liberatus* (1698, 1699).

[49] Gardiner receives profuse thanks for his patronage in John Partridge's *Merlinus Liberatus* (1696). The rest are listed among the patron saints of British medical astrology in John Gadbury's *Ephemeris* for 1697 and 1699, *passim*. Since all these men were dead when Gadbury claimed them for his own, his statements may be doubted; yet certainly Sir Thomas Browne had shown a marked interest in astrology, and Ramesey had composed *Lux Veritas: or, Christian Judicial Astrology Vindicated* (1651). Wittey's *Astromachia*, on the other hand, is simply a playful "Historical Fiction of a War among the Stars," written in English, Latin, and Greek verse to while away an attack of gout.

support, by whom and on what grounds was it assailed? But before this question can be answered, it must be clear that astrological medicine was only a part of a far larger body of supersitition and that it fell only because the whole concept of astrology crumbled. But the demolition of a body of ideas so large, intricate, and pervasive was not the work of a day. Nor was the collapse due to a single force. Rather, the fundamental assumptions of the superstition had to be destroyed one by one, and this was the achievement not only of science but also of religion, philosophy, government, law, and literature. I have elsewhere traced the pattern of the war against astrology as a whole during the sixteenth century. The pattern was threefold. On the first level, the attacks were based on religio-philosophic grounds, the entire rationale of the superstition coming under assault. On the second level, social objections arose against the malpractices of the astrologers and led to demands for governmental or legal action against them. On the third level, literary and dramatic satirists rounded off the attack by making the adherents of the superstition the victims of popular scorn and laughter.[50] The same pattern was repeated again and again in the seventeenth century greatly reinforced by the advance of science. Hence a full account of the destruction of astrological medicine would require a survey of the attacks on the superstition as a whole; but since this is not feasible, we can cast up a few straws to show how the wind was blowing.

The first level—that of the religio-philosophic objections—finds qualified expression in John Cotta's *A Short Discoverie of Several Sorts of Ignorant and Vnconsiderate Practisers of Physicke in England* (3 editions, 1612–19), a work in many respects in advance of its time. Cotta addressed himself to "the meanest readers," for whose sake he adopted "the plainnes and simplicitie of a familiar style . . . refreshing onely the learned in the margine." For the same reason he introduced concrete examples from his own experience and made his book succinct because "few words do best hold memorie, and a short taste doth breede more eager appetite."[51] Book I concerns the ignorant practisers of physic: empirics, women who offer amateur advice, itinerant quacks, untrained barber surgeons, apothecaries who prescribe as well as dispense, those who try to employ magical spells, and finally the servants of qualified physicians. In Book I Cotta's enlightened rationalism is nowhere better shown than in his discussion of witch-

[50] See Thomas Tomkis, *Albumazar* (1615), ed. H. G. Dick (University of California Publications in English, vol. 13), Chap. VI, "The Intellectual Background."

[51] Edition of 1619, sigs. A_3^r—A_4^r).

craft. Though he does not altogether deny the possibility of demoniac possession, he urges extreme caution in assuming its presence. He explains that what looks like witchcraft is generally due to hysterical symptoms and gives an example from his own experience. His conclusion is admirable:

> But if men wold more duly oft examine and weigh these cases, they shall many times find the Witch in a foolish sconce; and greater and more dangerous are the bewitchings of a mans owne folly, and more effectual oft times vnto his owne hurt and others, then any witch, yea or diuell whatsoeuer (p. 51).

Book II deals with what Cotta calls "methodians" or learned deceivers —i.e., either those who have only part of their medical training before they begin practice or those who have been graduated from the university (clergymen in particular) and who take to part-time doctoring after some casual reading in medical literature. Among these methodians one generally finds the astrological physicians—and here again Cotta distinguishes two categories: (1) those who have instructed themselves "in the too curious or superstitious, or supposed excellence in the vanities of Astrologie," and (2) those who have failed in normal medical practice and who have betaken themselves to medical starcraft in order to gain fame by competing with ignoramuses and by creating a stir among "the common and easie deceiued vulgars" (p. 94). These men seldom stop with astrological medicine but go on to the general practice of astrology, and "thus vsually they peruert the right vse of Astronomicall science vnto deceit, imposture, and iugling merchandizing for vniust and iniurious gaine" (p. 94). All astrological prophecy, he continues, predicates a kind of fatalism. But this deterministic mode of thought clashes with what all theologians agree to be one of the central tenets of Christianity—"a libertie and freedome of mans will vnto any morall, naturall, ciuill or politicke good" (p. 95). To be sure, the stars do exercise their influences upon man, but they are only second causes and "haue a power onely to moue or incline, and not to force" (p. 96). Hence no matter what tendencies are derived from the stars, "man by his spirit of vnderstanding, by prudence and circumspect prouidence, hath a large immunitie, whereby he may and oft doth auoide these violences, and delude their forces" (p. 96). Turning specifically to medicine, Cotta holds it as undeniable that the stars do have a profound effect upon the human constitution and evidences for his belief the relationship between the seasons and the ailments peculiar to each. But, he emphasizes, the stars are only the remote causes which produce

very general effects; hence the physician should concentrate not on them but on the immediate causes of disease.

Since then the heauens are outward causes, and remoued causes & therefore neuer necessarily or simply of themselves affect, and the inward causes of diseases sticke nearer, and so closely touch in their effects, that they suffer no interposition, it is manifest, that the heauens haue no certaine or absolute power in the diseased, nor can match or equall the immediate force appropriate onely vnto the disease (pp. 98–9).

In other words, though the wise physician may keep an eye on his patient's stars, he will neither believe that the heavenly bodies are his primary concern nor will he maintain that a knowledge of astrology alone can lead to sound medical practice.

He therefore that finding the inward disposition, shall for the superstitious feare of starres delay with speed to seeke present remedie, or in hope of forrein supply from constellations, neglect certaine rescue more neare [at] hande, is a foole, a mad man, or worse than either. The first is continually acted by common simple deluded people, the other by our impudent Astrologers prostituted for gaine (p. 101).

To support his contention, Cotta mentions a gentleman suffering from an incurable ulcer of the reins who called in a famous astrological physician. The latter cast the patient's horoscope and prophesied that if the victim lived the next few days, he would recover. The gentlemen lived three months, "but after the forenamed three moneths, the starres brake promise, the disease kept touch, the gentleman died" (p. 102). How foolish then the astrologer—or how shamelessly corrupt. In fine, says Cotta, a limited knowledge of astrology may be useful in medicine, but

whatsoeuer doth wander further, or is extended vnto other vses then these, is not ingenuous nor proper vnto a Physition, but is abuse of time, himselfe, and others, trifling vaine idlenesse, foule & vnlearned falshood (p. 102).

Cotta's book was open to criticism then as now. But whereas we see in it too much faith still in the traditional idea of stellar influences, Cotta's contemporaries might have attacked him on quite other grounds. His statement about the freedom of the will was only what every astrologer had said from the time of Ptolemy onwards—the stars incline, but do not compel, *agunt non cogunt*; the wise man will rule his stars, *sapiens dominabitur astris*. Yet despite its faults, Cotta's *Discoverie* is genuinely important. It is an emphatic denial of the astrological rule of thumb: look not at your patient but at his stars.

Pleas for legal action directly against astrological physicians are not easy to find, though English medical literature of the sixteenth and seventeenth centuries was prolific in attacks upon empirics and upon malpractices within the ranks of qualified physicians, surgeons, and apothecaries. But many of these attacks, like Cotta's *Discoverie*, rest upon a *laissez faire* assumption. Most competent physicians felt that their social duty was filled when they had warned the public against charlatans. But others, like John Securis, in *A Detection and Queremonie of the Daily Enormities and Abuses Committed in Physick* (1566), demanded governmental action from Parliament and the bishops. Securis' aim was to establish for each diocese the same licensing principles which Parliament had granted the Royal College. It is significant that his works were steadily reprinted and that one of the latest editions appeared in 1662 immediately after the flood of occult medicine in the previous decade. At the same time, Securis was far from singling out astrological physicians—he was, in fact, an almanac-maker himself—yet his book is a vigorous and memorable attack upon the group of unqualified practitioners to which the later astrologers belonged. A work which brings astrologers under more direct treatment is Charles Goodall's *An Historical Account of the Colleges Proceedings against Empiricks and Unlicensed Practisers* (1684), a year by year account of the College's war against quacks of all kinds. We have already cited Goodall's account of the action taken against Lambe and Forman. His aim must have been to force several inferences on his readers, viz., that astrological physicians belonged to the ranks of the "Empiricks and Unlicensed Practisers," that the College had a sturdy tradition of prosecuting them, and that in 1684, when his book appeared, there was strong reason to continue and even to extend the war against such quacks.

The third level of attack—that by literary and dramatic satirists—offers a rich body of material. The story of Jonathan Swift's hoax against the astrological Jack-of-all-trades, John Partridge, is too well known to repeat.[52] The greatest practical joke in English literature, it did royal service in laughing the superstition out of court in England; and, in the hands of Benjamin Franklin, performed a similar service in America. But Swift's attack was no isolated phenomenon; it was merely the culmination of a long list of literary satires. To see how widespread this ridicule was, we need only turn to the work of such a popular journalist and hackwriter as Tom Brown. His *Letters from the Dead* (1702) contains a coarse but typical

[52] See Ricardo Quintana, *The Art and Mind of Jonathan Swift* (New York, 1936), pp. 164–67, for the best brief account.

assault on astrological quacks, here represented by Joseph Haines, a well known actor and mountebank who died in 1701. Brown presents a series of imaginary epistles from Haines, who has now set up his old trade in Hell at the sign of the Urinal and Cassiopeia's Chair. He has taken a spacious house vacated by a prominent physician and furnished it with "pictures of Galen, Hippocrates, Albumazar, and Paracelsus" (edition of 1760, II, 134), a vast library in many languages, none of which he can read, and with such miscellaneous trappings as a pair of globes, a rattlesnake, a crocodile, and drawers full of animal excrementa imported from the Orient.

> And nothing now remain'd, but to make the world believe I was personally acquainted with every star in the firmament, could extort what confessions I pleas'd out of the planets, and was no less skill'd in astrology than in medicine (II, 138).

This he does by having a confederate steal jewelry from a duchess, casting a horoscope at her request to determine where the missing articles might be found, and directing the duchess to the place where they had been planted. Like Culpeper and Heydon, he is aided in his medical practice by his wife, "who is expert in all feminine distempers " (II, 143). Like Saunders, he reads urine, prophesies by feeling pulses, and casts horoscopes which can tell every circumstance of a person's life, even to the moles on the body. Like Blagrave, he recounts his wondrous cures with meticulous insistence on irrelevant detail.

> Joachim Hazard, of Cripplegate parish in White-cross-street, almost at the farther end near Old-street, turning in at the sign of the White Crow in Goat-Alley, straight forward, down three steps, at the sign of the Globe, was so be-devil'd with the spirit of lying, that he out-did two hard-mouthed evidences in their own profession, and could not open his mouth without romancing. I made him snuff up some half a score drops of my Elixir Alethinum, and now he has left off fortune-telling and astrology, and is return'd to his primitive trade of weaving (II, 148–49).

With a record of such cures behind him, Haines is gloriously successful in Hades. Hell, says Brown in effect, is exactly where such doctors belong.

From the grim smiles invoked by wits like Swift and Brown, medical astrology never really recovered. From about 1700 onward the pseudo-science dwindled swiftly, and no further texts appeared for seventy-five years. The rationalism prevalent among educated people kept astrology dormant. But the superstition dies hard: at a breath it returns. The Age of Reason produced its Christopher Heydon, Jr., and its Ebenezer Sibley,

editor of Culpeper's *English Physician* (1805) and author of *A Key to Physic and the Occult Sciences* (1794). The nineteenth century produced its William Joseph Simmonite, the Culpeper of his age, author of *Medical Botany* (1848?) and nine astrological treatises. And our own century has its Howard L. Cornell, whose 958-page *Encyclopedia of Medical Astrology* was published in Los Angeles in 1938. But, as the lunatic fringe, theirs is another story.

Our survey has carried us from 1598 to 1702, and the general line of dissolution is plain. At the beginning of the seventeenth century astrological medicine, though it had been vigorously assailed, required no heated defense. G. C.'s text of the subject published in 1598 took it more or less for granted that a basic knowledge of the subject was needed, and his explanations, despite the claims of the title-page, were seemingly addressed to a professional rather than to a lay audience. During the first quarter-century the work of Fludd, though it called forth protests, commanded a certain deserved respect and an international audience. But contemporary with Fludd and mouthing the doctrines which he earnestly preached were such notorious criminals as Forman and Lambe, whose deeds spoke louder than words. Competent physicians with a social conscience like Cotta felt called upon to warn the public against those masquerading as followers of Hippocrates, Galen, and Celsus. The second quarter-century was almost bare of texts, though the wave of superstition generated by the turbulent 1640's was soon to flood the land. The texts published about mid-century by Lilly, Culpeper, and Heydon mark a definite turning point. The number of such books rose sharply, and the social level which was addressed steadily fell. Increasing stress was laid on the idea of mystery, secrecy, and occultism, as when Heydon pretended to draw upon the esoteric traditions of the Rosicrucians. The claims became ever more sweeping, as in Blagrave's revelation of "The true way to cure all kinds of diseases and infirmities which are naturally incident to the body of man." The voice of the advertiser grew loud in the land, as in Salmon's voluminous works, always with the pressing consciousness that the art stood in desperate need of defense. These abuses led to demands for some kind of control over "unlicensed practisers." At the end of the century, the texts dissolved into the patent nonsense of Irish, whose book was for a long time the last of its line. Yet even then astrological medicine was widely practised, or was used to cloak furtive medical activity. Malpractices of course have never stopped, but imaginative writers like Brown and Swift

did much to halt this particular abuse by holding up to popular scorn the ignorance and shabby artifices of the astrological physicians.

Seen historically, Kipling's exaltation of Culpeper and his plea for the restoration of the techniques which Culpeper and his contemporaries employed is the sheerest sentimentality. This is not to say that modern medicine should turn its back on whatever the astrophysicists or the meteorologists and others may discover about periodic rhythms in the solar system. Indeed in the work of Dr. William F. Peterson, particularly in his four volume study *The Patient and the Weather* (Ann Arbor, 1934), we have a frontal attack on the limitations of conventional medical theory, backed by controlled research techniques. In this and his other work, Dr. Peterson makes an elaborate case for a correlation between meteorological rhythms and biochemical rhythms in the body. He has presented statistical evidence for his conviction that the time of year in which a child is conceived may so influence the embryo that its medical history depends not only on hereditary and environmental conditions, but on meteorological conditions as well. In all this, of course, there is nothing of the occult influences of the stars, though, as Dr. Peterson himself has been at pains to point out, his views are ancient ones; they may be found in Hippocrates. If this is what Kipling meant, well and good. But this is not what Culpeper stood for. In the last analysis, no development in seventeenth-century medicine was more slowly accepted or more far-reaching in its effects than the repudiation of the astrologers' rule, look not at your patient but at his stars.

Anne Home Hunter and Her Friends

JANE M. OPPENHEIMER*

Jan. 7, 1821. Died in Holles-Street, Cavendish-square, in the 79th year of her age, Mrs. Anne Hunter, widow of that distinguished physiologist John Hunter. . . . Mrs. Hunter was the eldest daughter of Mr. Robert Home, an eminent surgeon, first in the army and latterly at the Savoy. He had several other children; among whom another daughter was married to Mr. Mylne, the architect of Blackfriars Bridge; and a third, though no less amiable than her sisters, died unmarried. His sons were, Robert, bred as an artist, and now painter to the King of Lucknow, in India; Colonel Home, an officer in the Bombay establishment, now retired; and Sir Everard Home, Bart. the very eminent pupil of his brother-in-law. In 1771 Miss Home was married to Mr. John Hunter. . . . Mrs. J. Hunter became the mother of four children, of whom only two survive. . . . Since Mrs. H. became a widow, she has lived in quiet retirement, though in London. . . . Native genius was never more pleasingly united with female delicacy than in Mrs. John Hunter. . . . With every grace that could make her interesting in society, she had every personal and social virtue that could command respect and attachment. As a daughter, a sister, a wife, a mother, and a friend, she was anxious always to exceed, rather than in the smallest degree to fail in any of her duties. The natural warmth and energy of her heart prevented, indeed, the possibility of such defect. . . . By those who best knew her, she will be lamented, in proportion to the admiration and attachment which she could not fail to inspire; and it may be said with confidence that she has not left a survivor in the world who can have either a right or a wish to detract the smallest particle from the commendations, here or elsewhere bestowed, upon her genius, her understanding, or her heart.[1]

So wrote, for her obituary, Anne Home Hunter's friend of long standing, the Venerable Robert Nares. Nares, once Chaplain to the Duke of York and assistant preacher at Lincoln's Inn, later Archdeacon of Stafford and Canon of Lichfield, founder of the *British Critic*, and assistant librarian and keeper of manuscripts at the British Museum, had known the Homes for many years. He had been a schoolmate of Everard's at Westminster, as Everard remembered in the dedication to the second volume of the second edition of the *Practical Observations on the Treatment of Strictures in the Urethra*. "Allow me to dedicate the second [edition of this volume] to you," Sir Everard addressed Nares, "with whom I have lived in habits of uninterrupted intimacy for half a century.

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[1] Nares [Letter to J. B. Nichols, Esq.], in Nichols, *Illustrations of Literary History* 7 638–40.

"The circumstances under which our intimacy had its origin are highly honourable to you. . . . Whoever remembers what Westminster College was in our time, will acknowledge, that it was no common occurrence for a Senior to inspire his Junior with a lasting friendship for him."[2] The volume bearing these remarks was issued in 1821, the year Anne Hunter died, and we may presume that Nares' half century of intimacy with Everard included Anne during the greater part of fifty years.

The Archdeacon's eulogy of Mrs. Hunter becomes of primary significance to John Hunter's admirers, since it focuses attention at once on two aspects of Mrs. Hunter's qualities—firstly, the basis for her endearment to John himself, and secondly the manner in which she linked John, even though indirectly, to his literary contemporaries. It is a fact of singular interest that Mrs. Hunter was in her own right a figure of eminence in the literary circles of eighteenth century London; and for those who are accustomed to celebrate her husband John as one of the dominant leaders of eighteenth-century British science, it may be enlightening to point out the distinction which his wife attained, in her own quiet and unassuming way.

The Archdeacon's words of admiration were strong ones; yet lest the cautious reader accuse him of undue prejudice, we can show that similar qualities in Mrs. Hunter's character were emphasized by others, friend and foe alike of John. There is the letter, for instance, written byTommy Shippen, son of William Shippen, Jr. and Alice Shippen, who visited Anne in London around 1787 and wrote home to his mother, an old friend of Anne's:

> From her appearance you would suppose her 23 or 30 years of age,[3] & she is graceful, genteel & elegant beyond anything I have seen in England. . . . I am sure I do no injustice to Mr Hunter in giving M^rs^ Hunter the sole credit of the elegant arrangement of everything I saw at the house and I might also say that I had seen nothing so elegant as the entertainment of this day since I have been here. Lord Lansdown forms the only exception.[4]

[2] Home, *Practical Observations on the Treatment of Strictures in the Urethra*, 2d ed., vol. 2, dedication, n.p.

[3] She was born in 1742, and must then have been around 45.

[4] Livingston, *Nancy Shippen, her Journal Book*, 253–54. William Shippen, Jr., familiar to Americans alike for his medical services during the Revolution and for his part in the foundation of the pioneer Medical Department of the University of Pennsylvania, had studied with John Hunter and with his brother William Hunter. His wife, née Alice Lee, was a school friend of Anne Home's, and named her first daughter for her. Part of a letter from Anne Home Hunter to Mrs. Shippen, written on the occasion of Anne Home Shippen's birth, is recorded in Livingston, *op. cit.* 56–57.

Even Jesse Foot, John Hunter's most vituperative antagonist, had only good to say of Anne and her relationships to John:

> To her he was directed not only by personal attractions, but also mental endowments, which she possesses in a very eminent degree. She has exhibited specimens of poetry in sonnets, which for beautiful fancy, and pleasing harmony, are excellent in their style: and from the blandishments of her natural disposition, he found the cares and asperities of his life soothed to the end,—as long as his heart continued to vibrate.[5]

We may trust to Shippen and Nares and Foot for direct reports of Anne's grace and elegance and taste in matters worldly; but in addition we may derive indirectly an evaluation of her intellectual qualities, by inquiring who were the friends who visited her home in Leicester Square. Many of the "bluestockings"[6] were among them, of that group of fashionable intellectual women who imitated the gatherings of the salons of Paris with their own "conversations" on literary and worldly affairs. "I have heard my Aunt Agnes[7] speak of the celebrated people she met at Mrs. Hunter's," wrote Hunter's great-niece, Mrs. Milligan,[8] "amongst whom she mentioned Lord Orford, Madame D'Arblay, Mrs. Elizabeth Carter (between whom and Mrs. Hunter was a personal regard) and also Mrs. Montague, whom my Aunt admired much."[9]

Agnes Baillie cannot be too implicitly trusted as to the extent of the intimacy between Mrs. Hunter and those she enumerated; she may have succumbed to the temptation of exaggerating the lofty connections of her family. This would seem to be suggested by Madame D'Arblay's own remarks about Anne. Fanny Burney, Charles Burney's daughter and the authoress of *Evelina*, noted in her diary for Monday of the third week of December 1782: "There was a very full assembly at Mrs. Thrale's, where I dined and spent the day. . . . Mr. Seward[10] made me known to Mrs. Hunter, who is extremely pretty, and reckoned very ingenious."[11] Anne

[5] Foot, *Life of John Hunter*, 240.

[6] So named either in allusion to the blue stockings worn by Benjamin Stillingfleet, one of the moving spirits of the London group, or, more likely, to those affected at Madame de Polignac's salons in the Rue St. Honoré in Paris.

[7] Agnes Baillie, John Hunter's niece, daughter of Dorothy Hunter Baillie and the Reverend James Baillie, D.D., sister of Matthew Baillie the physician and of Joanna Baillie, Sir Walter Scott's "immortal Joanna," the dramatist.

[8] Mrs. Milligan was Elizabeth Margaret Baillie Milligan, Matthew Baillie's daughter and Agnes Baillie's niece.

[9] Paget, *John Hunter*, 191. Original document in the Royal College of Surgeons of England.

[10] William Seward, a literary dilettante. Anne Hunter wrote an elegy to his memory (Hunter, *Poems* 71–72). He was the only son of the brewer who became the rival of Mr. Thrale whose wife Hetty Thrale is familiar to us as Samuel Johnson's friend.

[11] D'Arblay, *Diary and Letters* 2. 147.

is not mentioned again in the diary until 1 May 1790, when Miss Burney spoke of her as though she had not meantime seen her (and spoke of her, by the way, perhaps in envy, in the only derogatory remarks I have ever found recorded against her). In a description of a recent gathering at the Pantheon, where fashionable London met and danced, she remarked: "Mrs. John Hunter, also, recollected me: I had once met her at an assembly at Mrs. Thrale's. She is a very fine woman, and highly accomplished; but with rather too much glare, both without and within."[12] Agnes Baillie presumably could have seen Miss Burney at parties at Mrs. Hunter's only between 1790 and 1793, since Mrs. Hunter ceased to entertain and lived a life of the quietest retirement after she became a widow in 1793. If she entertained Fanny formally as "Madame D'Arblay" she can have done so only between 28 July 1793, when Miss Burney became Madam D'Arblay, and 16 October that year, when Hunter died. Mrs. Milligan, however, designated Mrs. Hunter's friends by names to which they were only later entitled: Horace Walpole, for instance, became Lord Orford only in January 1792, and, as it will be shown below, he was friendly to Anne some years before his succession to the title.

There is no doubt, however, about Anne's friendship with the others listed by Mrs. Milligan as her friends. Anne wrote for Mrs. Carter, a distinguished student of literature and the classics, a translator of Epictetus, and a scholar for whom even Johnson had the highest respect, "Carisbrook Castle, a poem, with notes. . . . Inscribed to Mrs. Elizabeth Carter, by her most obliged, and affectionate friend and servant, the author. Jan. 6, 1802."[13] She dedicated no published verses to Mrs. Montagu;[14] but she addressed another to the friends of the bluestockings in verse, in the lines "To Mrs. Delainy, upon the marks of royal bounty which she received at a very advanced age, after the death of her friend the Duchess of Portland, in 1786:"

Delainy, far from courtly art,
My free lyre vibrates to my heart
  The simple notes of truth;
I joy to see thy virtuous age
With honours crown'd, a fair presage
  For well deserving youth.

[12] *Ibid.* 4. 375.
[13] Hunter, *op. cit.* 39.
[14] Elizabeth Robinson Montagu, the central figure of the bluestocking group in London. Her husband was a cousin of Edward Wortley Montagu, and of Lady Mary Wortley Montagu who popularized the practice of inoculation against smallpox.

I joy to see desert repaid,
And talents cherish'd in the shade,
  Unchill'd by evening's dew;
Bright glows for thee thy setting sun,
And ere thy mortal race is run,
  The goal appears in view.
. . . . . .
Nor has thy guardian spirit fled
But still by steps unerring led
  To honour and repose;
For in fair Windsor's royal seat
Thy virtues find a calm retreat,
  And wait their final close.
. . . . . .
Sweet the delight of gen'rous deeds
When from the heart the wish proceeds,
  Warm, noble and refin'd;
How exquisite the grateful sense
Of heav'n born, pure benevolence
  Upon the feeling mind!

Happy who thus have pow'r to give,
Who thus with honour may receive,
  What just esteem bestows;
While from the starry realms above
The powers beneficent approve
  The source from whence it flows.[15]

While we may surmise from her lines to her literary friends the degree of her esteem for them, it is even more illuminating to ascertain from their own writings what they in turn thought of her. Here we have various sources of information. We can turn, for instance, to the notebooks of Samuel Johnson's friend Hetty Thrale, whose home at Streatham we know from Miss Burney that Mrs. Hunter visited. Mrs. Thrale may have known the Hunters since June 1777; her notebook for that month states, though to be sure we do not know whether she came upon this information directly or otherwise: "The heart of a Frog will not cease to beat *says John Hunter* for four hours after it has been torne from the Body of the Animal

[15] Hunter, *op. cit.* 18–20. Mary Granville Delany, born in 1700, was a niece of the first Lord Lansdowne. Her first husband was Alexander Pendarves, her second Patrick Delany, Dean of Down, the intimate friend of Swift. She knew Swift and most of the other literary figures of the day. She was a close friend of the Dowager Duchess of Portland on whose death George III and Queen Charlotte provided her with a cottage at Windsor and a pension of £300 a year.

Poor Creature—Il a bu jusqu' au lies la Coupe amère & douce de la Sensibilité, might Jean Jacques observe in this Place."[16] We know from Miss Burney that Mrs. Hunter visited Mrs. Thrale with Seward in 1782, and Mrs. Thrale's notebook for 1782 reads:

> Mr Seward picked up the Musick—or *thinks* he has, of the Song the Indians sing while their Tormentors are preparing and inflicting various Tortures upon them: it is well known that the North American Tribes do make their Prisoners endure the most bitter Agonies before Death; it is well known too, that they pique themselves on the Constancy with which they bear these Torments: Mrs John Hunter, Wife to the famous Anatomist has made a Base to the Tune; . . . I had no Notion She could write so well.[17]

Horace Walpole, who hovered occasionally among the bluestockings, was warm in his praise of her. He first mentioned her in the *Letters* in the spring of 1791, when he wrote to Mary Berry: "I am just come from Lady Herries, who with Mrs. Hunter charged me to tell you how glad they are to hear you are better of your fall."[18] He had known her far earlier, however: on 30 June 1784 he had personally escorted Lord Robert and Lady Herries and John and Anne Hunter through the collection of oddities at Strawberry Hill; Anne visited Strawberry Hill again on 19 June 1789, and Walpole himself exhibited the glories of his establishment to the Hunters and the Reverend Robert Nares on 26 June 1790.[19] He hoped for another visit from the Hunters and Nares in 1793; he wrote Nares from Strawberry Hill 5 October 1793:

> I have thought it long, Sir, since I had the pleasure of seeing you, and should have asked that satisfaction here, with the company of Mr. and Mrs. Hunter, who promised to acquaint me with their return; yet had they done so within these last ten or twelve weeks, I could not have profited by it. I have been ill of the gout in four or five parts, and produced from one of my fingers a chalkstone, that I believe is worthy of a place in Mr. Hunter's collection of human miseries—he best knows whether it is qualified to be a candidate there—I do know that on *delivery*, I had it weighed, and its weight was four grains and a half; and with two detached bits, five grains. I little thought when I began my own museum that it would be increased by curiosities from my own person—nor is this the first,

[16] Piozzi, *Thraliana* 1. 67.

[17] *Ibid.* 1.533. The words to the "Song of Alknomook" are quoted by Piozzi, *op. cit.* 1. 534, and are found on pp. 79–80 of Hunter, *op. cit.*

[18] Walpole, *Letters* (ed. Toynbee) 14. 412–13. Lady Herries was the former Catherine Foote, niece of Horace Walpole's intimate friend Horace Mann, Envoy to Tuscany. She was first married to Colonel Ross of Cromartie, later, in 1777, to Sir Robert Herries, banker, four years M.P. for Dumfries Burghs. She held weekly conversation parties for the bluestockings.

[19] Walpole, "Book of visitors at Strawberry Hill," *Correspondence* (Yale ed.) 12. 217–74.

though the most magnificent; nor would probably be the last, were I likely *to go my full time* with two- or three-and-twenty others, of which I am *pregnant*—I must not say *big*, as a word unsuitable to my skeleton—my fingers literally resembling the bag of eggs in a fowl, as you may have observed.[20]

The visit by the Hunters that Walpole anticipated never took place: just a fortnight later Walpole was writing to his young correspondent Mary Berry: "I have just heard that Dr. [*sic*] Hunter is dead suddenly at St. George's Hospital. . . . I am heartily concerned for her, who you know is a great favourite with me. You will not see me soon sitting between Lady Louisa and Mrs. Carter!"[21]

Walpole continued to regret the loss of Mrs. Hunter's companionship, and the following month he wrote again to Mary Berry from Strawberry Hill: "What could I do with myself in London? All my playthings are here, and I have no playfellows left there! Lady Herries's and poor Mrs. Hunter's are shut up."[22]

But the exact magnitude for his feelings towards Anne is probably best revealed in a spontaneous and self-explanatory letter of 20 October 1793 to Nares:

I am exceeding grieved for the great misfortune that has happened to Mrs. Hunter, and I heartily regret the very amiable Doctor. This is what I must in truth and justice say to everybody on this melancholy occasion, though I hope less necessary to say to you than to most persons, as I trust you are persuaded of the sincere regard I had for both. But I am so circumstanced, that I flatter myself you will forgive me as my friend for consulting you in my distress. Mrs. Hunter (for which I shall always acknowledge myself infinitely obliged to her, as it proves her being convinced of my perfect esteem and friendship for her) has ordered me to be acquainted with her great loss. The letter is signed *M. Baillie*—unfortunately I do not know whether the notice comes to me from a lady or a gentleman, and I should be miserable to return an improper answer—indeed I am more miserable not to be able to return an immediate answer. It would be too presuming to write to Mrs. Hunter herself, though my heart is warm with grief and gratitude. Be so good, dear Sir, as to advise me what to do; and allow me earnestly to entreat you whenever you shall have an opportunity of seeing Mrs. Hunter, and of naming me without impropriety, to assure her that nothing but delicacy and respect for her unhappy situation, prevents me endeavouring this very moment to express the part I take in this sad event. Mrs. Hunter has before and now honoured me by distinguished goodness; and I should be ungrateful indeed, and insensible too, if I did not feel her kindness as thankfully, as I thoroughly honour and respect her virtues and talents.

[20] Walpole, *Letters* (ed. Toynbee) 15.211.

[21] *Ibid.* 15. 228–29. Lady Louisa was Lady Louisa Macdonald according to Mary Berry; *vide* Walpole, *Correspondence* (Yale ed.) 12.38.

[22] Walpole, *Letters* (ed. Toynbee) 15. 248.

Excuse my giving you this trouble, dear Sir, and believe me with most true regard

Your most obedient
Humble servant,
ORFORD.[23]

Anne, for her part, did not sever her ties with Walpole after her husband's death, as we know from his note of 1 June 1795: "LORD ORFORD is extremely obliged to Mrs. Dickenson for treating him with these very pretty and interesting lines of Mrs. Hunter, to whom he begs a thousand affectionate compliments."[24]

Walpole's personal affection for Anne sheds interesting light on the characters of both. Walpole's respect for her talents is not, however, the only measure we have of her literary abilities.

She published two volumes of her writings, the *Poems*, dedicated to her son John Banks Hunter, published first in 1802, later to pass through a second edition, and the *Sports of the Genii*, published in 1804. The latter was dedicated "to the memory of Susan Macdonald, eldest daughter of the Right Honourable Archibald Macdonald, Lord Chief Baron of England, and the Right Honourable Lady Louisa Macdonald; who died at Lisbon, where she went for the recovery of her health, March, 1803, in the 22d year of her age."[25] According to the introduction to the *Sports of the Genii*, the volume took its "rise from the beautiful groups of winged boys which filled the portfolio of Miss MACDONALD, who was in the habit of imagining and sketching them with the greatest facility."[26] Anne's connections with the Macdonalds were clearly close ones. Her friendship with Lady Louisa has been noted above by Walpole. It was Sir Archibald who, as Lord Chief Baron, helped William Eden, first Baron Auckland, in procuring the King's Bounty for Anne when John died; from 1797 until 1802 she lived within a few doors of him in Duke Street, and she owned an enamel portrait of him by Bone, copied from an oil at Oxford, which she bequeathed in her will to his daughter.

Her words, however, were on the lips of more than those who read her

[23] *Ibid.*, 15. 229–30.

[24] *Ibid.* 15. 345. Mrs. Dickenson was Mary Hamilton Dickenson, a grand-daughter of the third Duke of Hamilton, an assistant subgoverness to the young daughters of George III, and a friend of various members of the bluestocking group, including Hannah More and Mrs. Delany.

[25] Hunter, *Sports of the Genii*, dedication, n.p. The dedicatory plate was drawn by Masquerier, who painted Anne Hunter's portrait and perhaps that of her daughter, Lady Campbell. These portraits are reproduced by Peachey, *A Memoir of William & John Hunter*, facing p. 236 and p. 242. They are not reproduced here because it has been impossible to locate the present owner of the copyright of Peachey's book.

[26] Hunter, *op. cit.*, introduction, n.p.

published works, since many were set to music. "Her well-known stanzas of 'Queen Mary's Lament,' " wrote Nares in 1821, "were produced so long ago that they are frequently thought to have belonged to a prior age. Her song, 'In airy dreams,' stands almost in the same predicament. The death song of Alknomook, the Indian warrior, was written before many of those who sing it now were born."[27] She wrote, too, one of the versions of the "Flowers of the Forest." When George Thomson, the Scottish musician, was writing his Welsh airs in 1804, he sent seven of the melodies to Joanna Baillie for words and asked that Anne help in the task, since her volume "contains some charming songs"[28] and the musician therefore has had in mind "soliciting verses from her for the other airs not yet provided for."[29] Anne wrote three of the songs, "with which I flatter myself," wrote Joanna Baillie to Thomson, "you will be perfectly satisfied."[30]

Some of her songs are still familiar today. "When Haydn passed a season in London," wrote Nares, "Mrs. Hunter became the Muse of that celebrated composer."[31] She wrote the words for six of his twelve *English Canzonets*, including "The mermaid song," "Recollection," and the familiar "My mother bids me bind my hair." The remaining six were written by Charlotte Bertie, who perhaps was a friend of Anne's, since in 1791 she married the fourth Earl (later first Marquis) of Cholmondeley, nephew of Anne's friend Horace Walpole.

Many of John Hunter's recent biographers, following Stephen Paget, have claimed that Anne wrote the libretto for Haydn's oratorio, the "Creation." There is listed, furthermore, among the Hunter-Baillie MSS. at the Royal College of Surgeons among "Mrs. Ann Hunter's MS. Poems" a "MS. Libretto of Haydn's 'Creation'."[32] The musician's biographers, however, commonly attribute the English text of the libretto to Lindley, and describe how Lindley's text was sent to Haydn by Salomon and subsequently translated into German by van Swieten.

It is difficult to reconcile these diametrically opposed accounts without direct access to the Royal College manuscript. There may be a clue in a letter from George Thomson, later a friend of Haydn's too, who wrote to Mrs. Hunter: "It is not the first time that your muse and Haydn's have met, as we see from the beautiful canzonets. Would that he had been

[27] Nares, *op. cit.* 7. 639.

[28] Hadden, *George Thomson*, 227.

[29] Hadden, *op. cit.* 228. Burns wrote the music for Thomson's *Select Collection of Scottish Airs.*

[30] *Ibid.*

[31] Nares, *op. cit.* 7. 639.

[32] Plarr, *Catalogue of Manuscripts in the Royal College of Surgeons of England*, 40.

directed by you about the words to *The Creation*! It is lamentable to see such divine music joined with such miserable broken English."[33] Out of its context, as it stands in Hadden's text, this fragment is difficult to interpret. It might signify either that Anne had nothing to do with the *Creation* whatsoever, or only that she was not consulted when the German version was retranslated back into English. Hadden, who himself wrote Thomson's biography and studied his letters, is one of the biographers of Haydn's who says explicitly that there can be no doubt but that Lindley wrote the libretto, and comments on Thomson's letter to Anne: "The words of *The Creation* are poor enough in all conscience; but it was only a trick of Thomson's to flatter Mrs. Hunter with the notion that she was capable of furnishing an oratorio libretto."[34] The mystery is one that cannot be solved this side of the Atlantic, but it is one that should be clarified in justice to the true author, whether Lindley or Anne Hunter.

There is one further fragment of evidence that reveals the nature of her contemporaries' reception of her lyrical efforts. In the extant pages of Robert Burns's Edinburgh *Common-place book* there stand exactly two poems, by pen other than his own, copied out by the poet; and these were both by Anne Hunter. They had been given to Burns by Dr. James Gregory,[35] so that Burns might judge, as Gregory wrote to him in a letter dated from Edinburgh 2 June 1789, "how much correctness and high polish enhance the value of such compositions."[36] Gregory's letter continued with a discussion of Burns's lines on the wounded hare, and said, "I wish you would give me another edition of them, much amended, and I will send it to Mrs. Hunter, who I am sure will have much pleasure in reading it,"[37] and he asked Burns also for a copy of the "Water fowl on Loch Turit" to send to Anne. A poetess of Scottish extraction could hardly hope for higher favor than being singled out for recognition by Burns; and Anne must have been highly edified indeed to know that her own work was sent to Burns as a model for him to emulate!

One of Anne's poems copied out by Burns under the title "A sonnet in the manner of Petrarch" was that published in 1802 as "Sonnet, after the death of Laura:"

[33] Hadden, *op. cit.* 288.

[34] *Ibid.* 288–89.

[35] Professor of the Practice of Medicine at Edinburgh. Burns owed another literary debt to the medical profession: Dr. James Currie, one of the earliest practitioners to take advantage of the clinical thermometer in the treatment of disease, in 1800 edited anonymously the *Works of Robert Burns; with an account of his life, and a criticism on his writings.*

[36] Jack, "Burns's Unpublished Commonplace Book," *Macmillan's Mag.* 40 (1879) 130.

[37] *Ibid.*

Come, tender thoughts, with twilight's pensive gloom,
Come, tender thoughts, and soothe the soul of care,
Soften remembrance, mitigate despair,
And cast a gloom of comfort o'er the tomb.

Methinks again the days and years return
When joy was young, and careless fancy smil'd,
When hope with promises the heart beguil'd,
When love illum'd the world, and happiness was born.

Where are ye fled, dear moments of delight!
And thou, O best belov'd! alas no more
The future can the faded past restore;
Sunk in the shade of time's eternal night,
For me remains alone, through ling'ring years.
The melancholy muse, companion of my tears.[38]

There is a haunting overtone of melancholy here that recurs through many of Anne's published lines; and it is difficult not to wonder whether Anne may have projected into her poetry some of her private regrets for hopes unfulfilled. Socially and intellectually, the Hunters were successful as judged by conventional standards. What, if anything, had she desired of life, that John had not provided? This we can never know; but we can divine something of what she gave to John.

John's biographers have emphasized his own impatience with Anne's parties in their home, but have omitted to point out explicitly to what degree her traits supplement his own. For John, who scorned the written word, to devote himself to the substantiality of flesh and bone, she was beauty intellectual and spiritual; for him, who was candor and bluntness, she was delicacy and charm. But more than that, for John who was irascible and turbulent and harassed, she was grace, serenity, and peace. Her contribution cannot be measured alone by the quantity and quality of her published lines, but must rather be evaluated in the light of what she gave to John, who has invested us with so strong a heritage.

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[38] Quoted from Hunter, *Poems*, 64; the second line of the sonnet is omitted by Jack. The other poem copied by Burns appeared as "To the Nightingale" in Hunter, *op. cit.* 35–36.

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Government and Science in the United States: Historical Backgrounds

MADGE E. PICKARD*

III. The Smithsonian Institution

ON July 20, 1835, began another phase in the developing interrelation between American government and science, when Aaron Vail, Chargé d' Affaires of the United States in London, was notified of the terms of the will of one James Smithson, Esq.:[98]

In the case of the death of my said Nephew without leaving a child or children, or the death of the child or children he may have had under the age of twentyone years or intestate, I then bequeath the whole of my property, subject to the Annuity of One hundred pounds to John Fitall, & for the security & payment of

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[98] Natural "Son to Hugh, first Duke of Northumberland, & Elizabeth, Heiress of the Hungerfords of Studley, & Neice to Charles the proud Duke of Somerset," was born in France in 1765. His mother, twice widowed before the birth of James, was apparently left well provided for by both her husbands. Doubtless one of the main sources of her son's great wealth, however, was the property of the Hungerfords of Studley which he inherited in 1766 upon the death of her brother.

Smithson was brought from France at an early age, naturalized, and, as James Lewis Macie, entered as gentleman commoner at Pembroke College, Oxford, 1782. During vacations as well as school terms, young Smithson followed his chief interests, chemistry and mineralogy; in these fields he was easily regarded as the best of his class. Upon the recommendation of Sir Henry Cavendish, and others, as "a gentleman well versed in various branches of natural philosophy and particularly in chymistry and mineralogy," in 1787, one year after receiving his M.A., he was admitted as a Fellow of the Royal Society. The first of his 27 scientific papers was presented before the Royal Society in 1791.

Most of his life was passed on the continent, where he traveled extensively, living at various times in Berlin, Paris, Rome, Florence, and Geneva. In 1829 he died at Genoa.

For details of the life of Smithson, his bequest, and the Smithsonian Institution, see *Dict. Nat. Biog.* XVIII, 579–81; Henry C. Bolton, "The Smithsonian Institution. Its Origin, Growth, and Activities," *Appleton's Popular Science Monthly*, XLVIII (1896), 289–303, 449–64 (also issued separately, Washington, 1896); G. Brown Goode, "An Account of the Smithsonian Institution. Its Origin, History, Objects, and Achievements" (Washington, 1895); Goode, *The Smithsonian Institution, 1846–1896* (Washington, 1897); Walter R. Johnson, *Memoir on the Scientific Character and Researches of the Late James Smithson, Esq.* (Philadelphia, 1844); Samuel P. Langley, *Biographical Sketch of James Smithson* (Washington, 1914); William J. Rhees, *The Smithsonian Institution: Documents Relative to Its Origin and History, 1835–1879* (Washington, 1880, as No. XVII of Smithsonian Miscellaneous Collections; reedited, with additions, in two volumes, Washington, 1901, as No. XLII of *Smithsonian Miscellaneous Collections*. The period covered in this later work is extended to 1899); Rhees, *The Smithsonian Institution: Journals of the Board of Regents, Reports of Committees, Statistics, etc.* (Smithsonian Miscellaneous Collections XVIII, Washington, 1880); Webster P. True, *The Smithsonian Institution* (Smithsonian Scientific Series I, Washington, 1929).

which I mean Stock to remain in this Country, to the United States of America, to found at Washington, under the name of the Smithsonian Institution, an Establishment for the increase and diffusion of knowledge among men.

In June, Henry James (Dickinson) Hungerford, "said Nephew," had died without issue.

Various explanations of this rather unusual bequest have been attempted, but they are largely conjectural. Attention has been called to the fact that Smithson had in his library a copy of Isaac Weld's *Travels Through North America* (London, 1807), which in describing the city of Washington referred to it as likely some time to become the intellectual and political center of one of the greatest nations of the world.[99] It has also been maintained as probable that while he was in Paris Smithson had become acquainted with Joel Barlow and had been attracted by his prospectus of a national institute.[100] Richard Rush, special agent of the United States for obtaining the fund, writing to the Secretary of State, John Forsyth, in 1838 stated: "I have enquired if his [Smithson's] political opinions or bias were supposed to be of a nature that led him to select the United States as the great trustee of his enlarged and philanthropic views. The reply has been, that his opinions, as far as known or inferred, were thought to favor monarchal rather than popular institutions; but that he interested himself little in questions of government, being devoted to science. . . ."[101] Yet others have attempted to detect in Smithson's political philosophy republican sympathies, basing their claim largely upon a letter which he wrote from Paris, May 9, 1792, to his friend Davies Gilbert:

> Well! things are going on! *Ça ira* is growing the song of England, of Europe, as well as of France. Men of every rank are joining in the chorus. Stupidity and guilt have had a long reign, and it begins, indeed, to be time for justice and common sense to have their turn. . . . Every Englishman I converse with, almost every Englishman I see or hear of, appears to be of the democratic party. Mr. Davis, high sheriff for Dorsetshire, left this town to-day and takes with him, it seems, a quantity of tri-color ribbon to deck his men with the French national cockades, and I do not think this example unworthy of imitation by those whose principles lead them to consider with indifference and contempt the frowns of the court party, to whom, doubtless, the mixture of red, white, and blue is an object of horror . . . . Mr. Louis Bourbon is still at Paris, and the office of king is not yet

[99] Isaac Weld, Jr., *Travels through the States of North America, and the Provinces of Upper and Lower Canada, during the Years 1795, 1796, and 1797* (fourth edition, 2 volumes).

[100] G. Brown Goode, "The Origin of the National Scientific and Educational Institutions of the United States" (Reprint, *American Historical Association Papers*, New York, 1890), p. 33.

[101] Dated May 12. Reproduced in *H. Rpr.* 277, 26th Cong., 1st sess., p. 99.

abolished, but they daily feel the inutility, or rather great inconvenience, of continuing it, and its duration will probably not be long. May other nations, at the time of their reforms, be wise enough to cast off, at first, the contemptible incumbrance. I consider a nation with a king as a man who takes a lion as a guard-dog—if he knocks out his teeth he renders him useless, while if he leaves the lion his teeth the lion eats him.[102]

Still others would attribute the gift to purely negative factors, holding that Smithson "had been deeply wounded by the snobbery of the British aristocracy and was determined to found in America an institution which would outlive the names and titles of those who had offended him."[103] This is, perhaps, the natural inference from Smithson's own words: "The best blood of England flows in my veins. On my father's side I am a Northumberland, on my mother's I am related to kings; but this avails me not. My name shall live in the memory of man when the titles of the Northumberlands and the Percys are extinct and forgotten." It is believed that Smithson changed his bequest to the United States from the Royal Society after his own institution had refused to publish certain of his scientific papers.[104]

Regardless of its motivation, the bequest was so made, and on July 28, 1835, Vail wrote to Forsyth:

According to the view taken of the case by the solicitors, it is now for the United States, in the event of their accepting the bequest, and the trust coupled with it, to come forward, by their representative, and make themselves parties to an amicable suit before the Lord Chancellor, for the purpose of legally establishing the fact of the demise of the first legatee without children, and intestate; prove their claim to the benefit of the will; and obtain a decree in chancery, awarding them the proceeds of the estate.[105]

By December 17, 1835, the United States was ready to begin "to come forward," with the message of President Jackson:

[102] Rhees, *Documents* I (1901), 55, note.

[103] J. Fred Rippy, *Joel R. Poinsett*, p. 209.

[104] Letter (undated, but doubtless written in 1855) from Professor Louis Agassiz to Charles W. Upham, Chairman of the House Committee investigating the Smithsonian Institution; Bolton, "The Smithsonian Institution," p. 293. The exact nature of Smithson's break with the Royal Society is not known. We do know that the last of his scientific papers to appear in the *Philosophical Transactions* was in 1817; subsequent contributions were made to the *Annals of Philosophy*. His will, however, was dated October 23, 1826. It is not unlikely that Smithson was well aware of inner dissensions and the need for administrative reforms which beset the Royal Society during this period, climaxing after Smithson's death with the election in 1830 of the Duke of Sussex to the presidency of the society. See, for example, the detailed accounts of Charles Babbage, *Reflections on the Decline of Science in England, and on Some of Its Causes* (London, 1830); A. B. Granville, *The Royal Society in the XIXth Century: Being a Statistical Summary of Its Labours . . . and a Plan for Its Reform* (London, 1836).

[105] *H. Doc. 277*, 26th Cong., 1st sess., p. 2.

To the Senate and House of Representatives of the United States: I transmit to Congress a report from the Secretary of State, accompanying copies of certain papers relating to a bequest to the United States by Mr. James Smithson, of London, for the purpose of founding at Washington an establishment, under the name of the "Smithsonian Institution," for the diffusion of knowledge among men. The Executive having no authority to take any steps for accepting the trust and obtaining the funds, the papers are communicated with a view to such measures as Congress may deem necessary.[106]

Initial action in the Senate was speedy. In less than a month Chairman Benjamin Leigh (Virginia) of the Judiciary Committee had presented a report, containing "a short and satisfactory argument for the competency of Congress to accept the bequest, and showing it to be their duty,"[107] and a joint resolution authorizing the President to appoint an agent for the purpose of receiving the bequest and carrying the intentions of the testator in that behalf into effect.[108] The Senate bogged down at this point, and not until April 30th was discussion on the matter held.

In the House the Presidential message and documents were referred to a select committee, headed by John Quincy Adams. After little more than a fortnight Adams was able to record that his fellow committeemen had "got over their scruples with regard to the acceptance of the bequest, and directed me to prepare a report and a bill to that effect."[109] Nevertheless, difficulties presented themselves, and soon Adams was lamenting:

But so little are the feelings of others in unison with mine on this occasion, and so strange is this donation of half a million of dollars for the noblest of purposes, that no one thinks of attributing it to a benevolent motive. Vail intimates in his letter that the man was supposed to be insane. Bankhead [British Chargé d'Affaires at Washington] thinks he must have had republican propensities; which is probable. Colonel Aspinwall[110] conjectures that Mr. Smithson was an antenuptial son of the first Duke and Duchess of Northumberland. . . . Why he made this contingent bequest to the United States of America, no one can tell. The report, if it hazards any reflection upon the subject, must be very guarded. Mr. Bankhead thought it was a fine windfall for the City of Washington. . . . But certainly in the bequest itself there is a high and honorable sentiment of philanthropy, and a glorious testimonial of confidence in the institutions of this Union . . . an event in which I see the finger of Providence, compassing great results by incomprehensible means.[111]

[106] *Congressional Globe*, 24th Cong., 1st sess., p. 35.

[107] Adams, *Memoirs*, IX, p. 269. This report was printed as *S. Doc. 42*, 24th Cong., 1st sess.

[108] *Congressional Globe*, 24th Cong., 1st sess., p. 68.

[109] *Memoirs*, IX, p. 269.

[110] Thomas Aspinwall, American consul in London, under whose advice in 1838 Rush converted Smithsonian stock into gold for transfer to the United States.

[111] *Memoirs*, IX, p. 270.

The middle of January 1836 found Adams working over the manuscript of his report, "feeling no small degree of anxiety concerning it. The occasion is very extraordinary, as an incident in the course of legislation." Meanwhile there had appeared the Senate report,

very favorably received, and pronounced a very able one, . . . but it does not touch upon any one of the views which occupy nearly the whole of mine . . . . The unanimous acceptance of my report by all the members of the committee who attended the committee meeting gives me some encouragement; but, slandered as I now am by hireling snakes of all parties, and in almost every newspaper, I am sure to be reviled in everything that I do or say, and can foresee nothing but censure. Whether this bequest will ever come to anything is much doubted by almost every one. A spurious bastard claimant of the estate is anticipated, and seems to be threatened, from Mr. Daniel Brent's communications about the family of Labuttut.[112] The trials and iniquities of the English Court of Chancery are foreseen and foretold; and questions are made in the public journals whether the whole affair is not an imposture. All this may be; but through all this I look at the whole romance as officially presented to us, and, presuming all to be true, prepared my report accordingly.[113]

The Adams report and accompanying bill substantially upheld the Senate committee's opinion, believing the United States Congress "... not only . . . competent, but that it is enjoined upon them by considerations of the most imperious and indispensable obligation," and suggested certain changes to be made in the measure requisite for obtaining the fund. Adams eloquently proclaimed:

Of all the foundations of establishments for pious or charitable uses which ever signalized the spirit of the age or the comprehensive beneficence of the founder, none can be named more deserving of the approbation of mankind than this. Should it be faithfully carried into effect with an earnestness and sagacity of application and a steady perseverance of pursuit proportioned to the means furnished by the will of the founder and to the greatness and simplicity of his design as by himself declared, "the increase and diffusion of knowledge among men," it is no extravagance of anticipation to declare that his name will be hereafter enrolled among the eminent benefactors of mankind.[114]

[112] Brent was the United States consul at Paris at this time. Smithson's nephew Hungerford died under the name of Henri de la Batut. His mother, Madame de la Batut, claimed that Hungerford possessed himself of all of the estate of her husband, Colonel Dickinson, and failed to render to her any account of it. Because of this failure, she believed she at the time of the settlement had a right to call upon Hungerford's executor to do that which Hungerford in his lifetime should have done. In the final settlement of the Smithsonian estate there was created for Madame a trust whose annual interest yielded her 150 pounds 9 shillings for life. Upon her death in 1861 the principal of the annuity, £5015 (realizing $26,210) was in 1864 added to the original grant to the United States.

[113] *Memoirs*, IX, pp. 272–73.

[114] *H. Rpr. 181*, 24th Cong., 1st sess., p. 2.

But this was also the age of Jacksonian democracy rampant, and keen in the minds of many was the aversion to things foreign. William Faux, Harriet Martineau, and their fellow British travelers with accounts derogatory to the United States had not furthered the cause of their own country. Mr. William C. Preston, South Carolina senator, hardly shared Adams's enthusiasm toward Smithson, and thought the donation, made partly with a view to immortalize the donor, a cheap way of conferring immortality. Fearing the danger of imaginations being run away with, he had no idea of the District of Columbia's being used as a fulcrum to raise foreigners to immortality by getting Congress as the *parens patriae* of the District to accept donations from them. Furthermore, he charged the Adams committee with misconceptions of the facts, since the bequest was to the United States of America to found a university for general benefit; its location in the District he regarded as only incidental, hence the money could not be received by Congress. Not only was this the case, he believed, but if a national institution were desired, he would prefer that it be established out of our own funds and not have Congress "pander to the paltry vanity of any individual." If Congress accepted this donation, "every whippersnapper vagabond that has been traducing our country might think proper to have his name distinguished in the same way." It was not consistent with the dignity of the country to accept the grant of even a man of noble birth or lineage. Fellow Carolinian John C. Calhoun likewise felt it "beneath the dignity of the United States to receive presents of this kind from anyone."

The course of the debate wandered from the right of the Congress to establish a national university to Smithson's true intent. At length the resolution was passed and sent to the House where it received the changes which Adams had suggested in his early report, and passed "with less than ten negative votes"; these amendments were concurred in by the Senate.[115] With the approval of the Executive on July 1, 1836, came into being "An act to authorize and enable the President to assert and prosecute with effect the claim of the United States to the legacy bequeathed to them by James Smithson, late of London, deceased, to found at Washington, under the name of the Smithsonian Institution, an establishment for the increase and diffusion of knowledge among men."[116]

[115] *Congressional Globe*, 24th Cong., 1st sess., pp. 412–15, 585–86; Adams, *Memoirs*, IX, p. 298.

[116] *United States Statutes*, V, p. 64 (Chapter CCLII).

For a period of more than one and one half years, during which Richard Rush as special agent was in London maneuvering through the tortuous legal channels which then characterized the Chancery Court and establishing the claim of the United States,[117] the Smithsonian fund dropped from its place in the public mind. Some, sharing the view expressed by Representative James Parker (New Jersey) that it "would perhaps be fifteen or twenty years first" before the funds were received, turned their attention to matters of more immediate urgency; others there were who, more or less inherently opposed to the whole idea, preferred not to think of it at all; and some there were who apparently just didn't care. By early March 1838 unofficial reports of the progress being made by Rush were sufficient to reawaken the interest of the House to the degree of requesting a full report from the President "if the same can be done without prejudice to the public service."[118]

In May Rush wrote to Forsyth:

> I have great satisfaction in announcing to you, for the President's information, that the case came on to be heard again on the 9th instant, when a decree was solemnly pronounced adjudging the Smithsonian bequest to the United States . . . . The suit is therefore ended without fear of more delays, nothing but a few forms remaining to put me in actual possession of the fund.[119]

Approximately one month was required for the completion of this process, but by June 5 everything had been taken care of, and "the accountant-general of the court of chancery has transferred into your name the several sums following: £64,535 18s. 9 d., consols; £12,000 reduced annuities; £16,100 bank stock."[120] The month of June was devoted to the sales of the stock, which

> at length are finally closed. They have all been good—perhaps I may say fortunate. The prices have been high, as compared with the state of the stock market for several years past; and I am confidently informed that, from the time the stock came under my control until I sold it all, no higher prices were obtained by any private seller than I obtained . . . . The two days on which I am to make all the transfers are the 30th of this month and 6th of July. The money will all be received simultaneously. Immediately afterwards I shall take measures for converting the whole into English gold coin, having finally determined that this is the proper

[117] This most interesting development can be traced in detail in the correspondence between Rush and Forsyth, *et al.*, *H. Rpr. 277*, 26th Cong., 1st sess., pp. 2–5, 38–72, 83–155. This is in part reproduced in Rhees, *Documents*, I (1901 ed.), pp. 7–111.

[118] *Congressional Globe*, 25th Cong., 2nd sess., p. 212.

[119] May 12, 1838. *H. Rpr. 277*, 26th Cong., 1st sess., p. 97.

[120] Clarke, Fynmore & Fladgate to Rush, *ibid.*, p. 101.

mode in which to bring the money to the United States, under the trust I have in hand.[121]

On the 28th day of August, 1838, after a stormy voyage of 43 days, the packet *Mediator*, commanded by Christopher H. Champlin, sailed into New York Harbor, bringing in its hold 11 boxes, containing 105 bags "of 1,000 [sovereigns] each, with the exception of one, in case No. 11, which contains 960 sovereigns and 8 shillings and 7 pence wrapped in paper, each case being sealed with two seals."[122] The boxes were carefully landed and stored for safe keeping in the Bank of America; a few days later the gold was sent to the United States Mint at Philadelphia, where it was immediately recoined into American money, yielding $508,318.46. Thus ended the first aspect of the Smithsonian chapter of governmental-scientific interrelations.

Meanwhile, as American trusteeship of the Smithsonian fund progressed from possibility to reality, action was being taken, and thoughts were being turned toward a suitable disposition of the fund. In compliance with an act of Congress, approved July 7, negotiations were developing for the investment of the Smithsonian money in state bonds. About this time (June 21) Adams was recording that he "did not think the Smithsonian Institution should be a college, or a university, or a school of education for children, but altogether of a different character; that, as the money would come into the hands of the Executive, I hoped the President would in his next annual message propose some plan for the adoption of Congress for the disposal of the fund; and I advised Dr. Chapin [President of Washington's Columbian College] to see the President and converse with him on the subject—which he said he would."[123] But Adams was hardly satisfied with sending another to promote a cause in which he himself was so vitally interested, and a few days later held a conversation of some two hours with the President on the subject, "entreating him to have a plan prepared to recommend to Congress for the foundation of the Institution at the commencement of the next session of Congress," and suggesting the founding of an astronomical observatory, with paid astronomer and assistant, nightly observations, annual publication of the findings, lecture courses "upon the natural, moral, and political sciences." President Van Buren "received all this with complacency and apparent concurrence of

[121] Rush to Forsyth, June 26, 1838, *ibid.*, p. 104.

[122] Memorandum on Invoice, July 16, 1838, *ibid.*, p. 149.

[123] *Memoirs*, X, p. 23.

opinion," and promised to look into Adams's report, asking him to name persons "who I thought might be usefully consulted; appeared very favorably disposed to the establishment of an observatory, and willing to do right."[124]

Approximately five months later when Adams held another conversation with the President, Van Buren announced his intention of leaving the disposal entirely to Congress, and stated that everyone to whom he had spoken had received favorably the idea of a national observatory.[125] The Secretary of the Treasury, Levi Woodbury, reported the Smithsonian funds invested in state stock (500 bonds of the State of Arkansas and eight of the State of Michigan)[126] and Adams held "a faint hope that the fund may be so managed as to produce some useful result."[127] Though Joel R. Poinsett, Secretary of War, approved of the observatory, he intimated that the President had not made up his mind to favor it, and Adams inferred "that he will ostensibly neither favor nor oppose it, but that he will underhandedly defeat it, taking care to incur no personal responsibility for its failure." Adams seemed pessimistic on other points, fearing that "jobbing for favorites is to be the destiny of the Smithsonian fund." He was skeptical of the influence upon the President of the "English atheist South Carolina Professor, Thomas Cooper, a man whose very breath is pestilential to every good purpose."[128]

The President had been making an honest effort, however, to obtain information. In his message to Congress, December 10, he deemed it proper

> to invite the attention of Congress to the obligation now devolving upon the United States to fulfill the object of the bequest. In order to obtain such information as might seem to facilitate its attainment, the Secretary of State was directed in July last to apply to persons versed in science, and familiar with the subject of public education, for their views as to the mode of disposing of the fund best calculated to meet the intentions of the testator, and prove most beneficial to mankind. Copies of the circular letter, written in compliance with these directions, and of the answers to it received at the Department of State, are herewith communicated for the consideration of Congress.[129]

Though the 25th Congress immediately set about to do the Executive's

[124] *Ibid.*, p. 25 (June 24).

[125] *Ibid.*, p. 44 (November 29).

[126] Sealed bids were submitted to the Secretary of the Treasury in response to his announcement in the public newspapers. Those of Arkansas and Michigan were most acceptable, i.e., offered highest interest rates.

[127] *Memoirs*, X, p. 44 (November 29).

[128] *Ibid.*, p. 57 (December 8).

[129] *Congressional Globe*, 25th Cong., 3rd sess., pp. 20–21.

bidding, it, three additional congresses, and two more Presidents were to come and go before the task was finished; the creation of the Smithsonian Institution was finally accomplished August 10, 1846, at the hands of the 29th Congress in the administration of James K. Polk. Many and varied were the proposals presented to the lawmakers during the interval of almost eight years, a period so fraught with significant political and economic developments in the national life that it was inevitable that the Institution should become somewhat enmeshed in party enmity and personal animosities.

Private citizens were doing their bit to assist the congressmen by presenting memorials: Charles Lewis Fleischmann, Horatio C. Merriman, the Kentucky State Agricultural Society, and the Agricultural Society of the United States praying for the establishment of a national agricultural school or college or some means of assisting agricultural experimentation and education; another seeking "an institution for prosecuting experiments in certain physical sciences"; yet another which would have the fund "applied to the instruction of females"; "Franklin" desired professorships and various courses of lectures; B. Birdsall wanted to see "a part of the 'Smithsonian bequest' . . . appropriated for the purposes of establishing and awarding a system of annual prizes for the best original essays on the various subjects of the physical sciences, useful arts, and abstract mathematics, etc., and for such new discoveries in art or science as shall do honor to the nation." Speedy action was the prayer of the City of Washington, of Constantine S. Rafinesque, of the citizens of Huron County, Ohio, and Madison and Steuben counties, New York, and of an Albany, New York, convention of county superintendents of common schools.

Congressmen, too, had their own ideas concerning disposition of the fund. Present to the very end was "a little group of willful men," who carried over both the frontier nationalism of the period and fear of federal supremacy at the expense of states' rights, men like Calhoun of South Carolina and John S. Chipman of Michigan, who as late as April 23, 1846, "spoke urgently in opposition to the bill."

> His first reason for voting (as he said he intended to do) was based on a fact that was irrevocable—namely, that this Government, great and powerful as it was—prospering and progressing as it was in original native intellect, fostered by institutions known to no other country and no other people—should have consented to be the recipient of what was called here a munificent donation of half a million from an Englishman to enlightened American republicans in this country. How did it happen that this Government accepted such a boon from a for-

eigner—an Englishman, too? He looked upon it as a stain on the history of the country, as an insult to the American nation. He wished this Government to wash its hands of all such eleemosynary dealings. There was a native stock in this country, intellectual and physical, that needed no foreign aid, and he trusted in God it would not condescend to receive any.

In making these remarks, he would probably be charged with being opposed to education. He was opposed to it in the light in which, in modern times, it was sought to be inculcated in this country—an education which passed over all thought, all reflection, all originality, and was based upon an intellectual lumber house of undigested and indigestible matter; thrown together in the head of some aspirant after immortal intellectual fame, without originality enough to give character, he would not say to what—he *had* a term, but probably it might be inappropriate for him to utter it here. How the donor of this money, being an Englishman, came to love this country so well, God only knew; but he (Mr. Chipman) would say that in yielding to his suggestion the country had humbled and degraded itself.

He objected to the bill because, clearly and in terms, it established a corporation. He appealed to his political friends, after all their opposition, after all their arguments, after all their efforts to put down a United States bank on the ground of its unconstitutionality, whether—tickled, amused, their pride touched by the great advantages of dispelling the cloud of ignorance which overshadowed the American Republic—they would now belie all their principles and all their professions? What distinction was there between a corporation in the form of a United States bank and a corporation intended to elevate humanity in close approximation to the throne of Heaven? He appealed to his friends here—to those who held their seats by virtue of the very opposition they had made to the bank of the United States—whether this Government had the power to create a corporation? The rose by any other name, &c., and a corporation by any other name, should be as offensive to the Democracy. Was it necessary to label the animal, that we might know to what species it belonged, as was done in the case of the Dutchman's picture of a man with the horse, where the name was put upon it, that the beholder might know what it was? He declared that the bill proposed the establishment of one of the most withering and deadly corporations, carrying with it all the features of an aristocracy the most offensive that could be established in any country under heaven. He was opposed to an aristocracy of wealth, but he was in favor of an aristocracy of intellect—not of false education—not of knowledge that consisted in bringing together exploded ideas—but that knowledge which was the offspring of an intellect patented directly by the Almighty.[130]

Still a few days later Andrew Johnson from Tennessee, of whom the nation was to hear much in later years, questioned the "taking of money out of the pockets of his constituents for the erection of an Institution . . . contended that no substantial good could result to the mass of the people

[130] *Ibid.*, 29th Cong., 1st sess., p. 719.

. . . . There was something a little farcical and amusing in this system of normal instruction, which was to provide the country with school teachers. He would like to see a young man, educated at the Smithsonian Institution, and brought up in all the extravagance, folly, aristocracy, and corruption of Washington, go out into the country to teach the little boys and girls to read and write! These young men, so educated, would steal, or play the little pettifogger, sooner than become teachers. Ninety-nine out of a hundred of those who received the benefit of this Institution would hang about a law office—get a license—become a pack of drones, instead of schoolmasters. Washington city was not a place for such an institution . . . . He objected to the entire scheme . . . to the whole principle of the measure, and . . . he would send the money back to the source from whence it came."[131]

Although the March 1840 report of the Treasury on the subject of investment of the Smithsonian fund seemed to cause the Senate no particular concern, some members of the House looked askance at the declining market value of certain state stocks, and introduced into the House early in the first session of the 27th Congress a bill prohibiting any further investment of the funds of the United States in stocks of the several states. Prevention of the potential default of the states whose bonds had already been purchased was sought a few days later (September 4, 1841) with the passage of an act to appropriate proceeds of the sales of public lands and to grant preemption rights to states, enabling them to pay interest and principal of the state bonds held by the Government.[132] The Senate committee's report on the House bill recommending that the investment of the Smithsonian funds be changed to United States stock was a call to the hounds and the chase was on. Mr. Archibald Linn from New York "considered the whole thing as a direct attack upon the credit of the States. Here was an act of Congress implying on the very face of it a discredit of State stocks . . . . "

The Democractic party, during the last political struggle of the party now administering the Government to get into power, had been slandered, vilified, and abused, with the most unfounded charge of designs to discredit the States of this Union. The Democratic party had been denounced from one end of the Union to the other for having prostrated the whole credit system. They were pronounced traitors to their country, and a continued stream of vituperation was poured out upon them from June, 1839, to the close of the Presidential election, with a view

[131] *Ibid.*, p. 741.

[132] *United States Statutes*, V, p. 453 (Chapter XVI).

of enlisting the prejudices of every one connected with State stocks against the continuation of the Democracy in power. Yet, what spectacle do we now see presented to the country? What but that to be expected from the Whig party, which had so notoriously proved to the world that their professions out of power were one thing and their performances in power quite another and a different thing? Now that they have the first opportunity, they offer the most outrageous, treacherous, and fatal stab to the State stock credit system that ever was attempted by any representatives of the people or the States. But he was glad the gentleman had shown the true character of their professions contrasted with their performances.[133]

Senator Clay of Kentucky, mediating even then, came to the aid of the measure, which after due deliberation was passed, but the subject was to return.

Although in April 1842 Adams professed confidence in the integrity of the states: "The annual interest upon them [state stocks], it can not be doubted, will be hereafter, as it has been hitherto, punctually paid. . . ," either this expression of "the venerable Gentleman from Massachusetts" was in reality a long low whistle in the dark, or else conditions subsequent to it had created doubts in his mind, for in January 1844, he presented to the House a resolution:

That the Secretary of the Treasury be directed to report to this House the present state and condition of the funds bequeathed by James Smithson, to the United States, for the establishment at the City of Washington of an institution for the increase and diffusion of knowledge among men; with a statement of what payments of interest have been received, and what (if any) have been refused or withheld on the States stock in which the said funds were invested; the amount of interest so withheld or refused to be paid; and what measures have been taken by the Secretary to recover the same; also by whose agency the said investments were made; with copies of any correspondence of the Treasury Department with such agents relating thereunto.[134]

The report which J. C. Spencer, Secretary of the Treasury, rendered a few weeks later confirmed his worst suspicions. It showed that on December 31, 1843, a total balance of $79,527.84 was due in unpaid interest, of which Arkansas was responsible for $75,687.84. "I have the honor further to report, in compliance with the resolution, that the only measures taken to recover the interest so withheld were, by retaining in the Treasury the amounts stated in statement C, under the provisions of the fourth section of the act of 4th September, 1841 [$10,772.16]; there being

[133] *Congressional Globe*, 27th Cong., 1st sess., p. 441.

[134] *Ibid.*, 28th Cong., 1st sess., p. 97.

no other means by which the department could compel the payment of interest then in arrear."[135]

To Adams and other members of a special investigating committee reporting June 7, 1844, " . . . it appears that from and after July, 1841, all payments of interest on said Arkansas bonds have ceased, and that the amount due is accumulating at the rate of more than $32,000 a year, amounting at this day to more than $90,000." They recommended an appropriation of $800,000 to be invested in United States stock certificates for the redemption of the government's pledge "that all the sums of money and other funds received for or on account of this legacy should be applied to the humane and generous purpose prescribed by the testator." This sum would constitute a permanent fund to replace $500,000 of the original sums "which were on the 4th of the same month [September, 1838], invested for and on account of the United States in bonds of the State of Arkansas," and supply $300,000, "the interest which has accrued and will accrue until or near the 31st of December, 1846, on the bonds now in the treasury of the United States, the payment of interest on which is at present suspended." The report went on to state:

> The committee will not entertain a doubt that the States of Arkansas, Illinois, and Michigan [Ohio had kept up her payments] will have made before the close of the year 1846 provision for payment of the arrears of interest due upon their bonds and for the punctual payment of the same interest as it may hereafter accrue. The appropriations from the Treasury proposed by the bill herewith reported will require no disbursement of money beyond one year's interest on the whole fund, and the amount now in the Treasury and available for the immediate disposal of Congress. The appropriations authorized by the bill are necessary to enable Congress to proceed immediately to the execution of the trust committed to them by the testator, and for the fulfillment of which the faith of the nation has been pledged; but they will constitute no burdens upon the Treasury itself, and no ultimate expenditure, other than the proceeds of the Smithsonian fund itself . . . . For refunding to the Treasury the whole sum thus appropriated, principal and interest, the only requisite will be the sense of justice of the governments of the States of Arkansas, Illinois, and Michigan, of which, as the committee have observed, they can not entertain a doubt.[136]

In case moral suasion prove not too effective, on March 3, 1845, the President signed a joint resolution:

> That whenever any State shall have been or may be in default for the payment of interest or principal on investments in its stocks or bonds, held by the United

[135] *Exec. Doc. 142*, 28th Cong., 1st sess., p. 1. [136] *H. Doc., 540*, 28th Cong., 1st sess., pp. 4–5.

States in trust, it shall be the duty of the Secretary of the Treasury to retain the whole, or so much thereof as may be necessary, of the percentage to which such State may be entitled of the proceeds of the sales of the public lands within its limits, and apply the same to the payment of said interest or principal, or to the reimbursement of any sums of money expended by the United States for that purpose.[127]

The House Committee of Robert Dale Owen of Indiana in February 1846 reported, "though they do not consider it in strictness a part of their duty to refer to the purchase of stocks which Congress has seen fit to make with the money paid into the Treasury as the Smithsonian fund":

. . . since December 31, 1843, there has been carried into the Treasury, on account of interest due by these States, the sum of $19,106.25, and that the entire amount of interest due and unpaid at the close of last year had increased as follows:

Balance of interest due and unpaid up to December 31, 1845.

By the State of—	
Arkansas	$130,841.52
Illinois	1,680.00
Michigan	180.07
Total interest on stocks purchased with the Smithsonian fund, due and unpaid December 31, 1845	$132,701.59

The bill which they proposed for adoption would appropriate "for the perpetual maintenance and support of said Institution" both the money and its accrued interest, plus continued interest at 6%; and further "That all the moneys and stocks which have been, or may hereafter be received into the Treasury of the United States, on account of the fund bequeathed by James Smithson, be, and the same hereby are, pledged to refund to the treasury of the United States the sums hereby appropriated."[128] Adams did not favor the making of any appropriations until interest in arrears should be paid by the various states, and believed it to be the duty of the Secretary of the Treasury to report to each successive session of Congress the state of the fund, and particularly the amount of arrears of interest due. The House, however, rejected his amendment to this effect.[129] Mr. O. B. Ficklin of Illinois was heartily opposed to paying the interest out of the Treasury—"sucking the lifeblood from the Treasury. We do not want to create a perpetual debt of interest upon half a million of money to be paid whilst this Government endures. We want no such

[127] *United States Statutes*, V, p. 801 (Resolution 14).

[128] *H. Doc. 370*, 29th Cong., 1st sess., p. 7.

[129] *Congressional Globe*, 29th Cong., 1st sess., pp. 719–20.

polypus, no such wen, fastened upon the Government." He regarded the Owen bill as one of the most odious and abominable ever presented in the Congress, and would rather see "this half million returned to the British court of chancery; rather see ten millions sunk to the bottom of the Potomac, or melted, or destroyed, than see this bill pass."

Mr. S. F. Vinton of Ohio had informed the Congress that the interest on the bonds of his state would be regularly paid; R. McClelland invited its attention to a misapprehension prevailing in the committee as to the payment of interest by his state of Michigan, announced that provision had been made for this payment, and that he had no doubt future provision would be made for the prompt payment of the interest hereafter to accrue; Archibald Yell reassured listeners that his state of Arkansas was "ready to settle at any time." Mr. A. D. Sims of South Carolina believed that "No matter for what purpose that fund might be dedicated, the faith and honor of the country, by the action of Congress, were pledged to regard it at all times as being in the Treasury of the United States; and the United States was in fact itself a creditor of the States to whom the money was loaned; so that the Arkansas, or Michigan, or Illinois bonds or securities—or the securities of any State to which this money had been loaned—were in fact debts due to the General Government; and the fund itself must be regarded as in the Treasury of the United States." For his own part he had no apprehension or fear but that each of the states would in good time and in good faith redeem their obligations and refund every dollar that had been loaned to them. Mr. Adams, though he had earlier shared this opinion of the gentleman from South Carolina, "had had some experience since that time that convinced him very perfectly that it [Smithsonian money] was not in the Treasury of the United States . . . and could not without a violation of all reason be considered in it," and was willing if necessary to vote an "appropriation of that amount, or of ten times that amount, to be raised by a tax upon the people."

After lengthy debate which centered around the constitutionality of the government's investment of the fund and the legal fundamentals of trusteeships, as finally adopted in August 1846 the financial measures of the Smithsonian Act provided for the lending of the original fund to the United States treasury, at six per cent annual interest, dating from September 1, 1838; the accruing interest up to July 1, 1847, to be used at the discretion of the Smithsonian regents for building and other current incidental expenses of the Institution; six per cent interest on the trust fund to be appro-

priated for the perpetual maintenance and support of the Institution; the fund to remain intact, future expenditures and appropriations to be made entirely from the interest; and all moneys and stocks which had been or might be received into the treasury on account of the fund to be pledged to refund to the treasury the sums appropriated.

But along with all this opposition it must not be lost sight of that there were those who favored the immediate effecting of a Smithsonian Institution. In the course of any project which remains before the public eye so long as did the Smithsonian Institution it is inevitable that almost innumerable ideas for effective organization come into being; certainly it was true in this case. Followers, however, generally rallied around one of three standards. Many there were who believed, as Adams, that the creation of a national observatory with its various appendages for advanced study and learning was actually in the mind of the scientific Smithson. Others thought that the most efficacious means of creating and diffusing knowledge among men was to set up some type of school. To yet another group the building up of an immense library, second to none in the world, was the answer.

A foreshadowing of the ensuing conflict of opinions arose early in 1839, when it was decided after a joint committee had failed to reach agreement, that separate reports should be prepared in each house. In the House of Representatives Adams's introductory bill in part proposed "That no part of the said Smithsonian fund, principal or interest, shall be applied to any school, college, university, institute of education, or ecclesiastical establishment," but should go instead "for the erection, and establishment, at the city of Washington, of an Astronomical Observator, provided with the best and most approved instruments and books, for the continual observation, calculation, and recording of the remarkable phenomena of the heavens; for the periodical publication of the observations thus made, and of a Nautical Almanac, for the use of the mariners of the United States, and of all other navigating nations."[140] Almost simultaneously Mr. Asher Robbins was securing from the Senate approval of his resolutions:

> That all experience having shown scientific and literary institutions to be by far the most effectual means to the end of increasing and diffusing knowledge among men, the Smithsonian Institution should be a scientific and literary institution, formed upon a model the best calculated to make those means the most effectual to that end.
>
> That to apply said trust fund to the erection and support of an observatory

[140] *H. Doc.*, 25th Cong., 3rd sess., Resolution 12.

would not be to fulfill bona fide the intention of the testator, nor would it comport with the dignity of the United States to owe such an establishment to foreign eleemosynary means.[141]

Adams thought the Robbins report was motivated by personal interests, later recalling to a friend "how Asher Robbins, a Senator from Rhode Island, being laid politically on the shelf by his constituents, had taken a fancy to this fund for the comfort and support of his old age, and projected a University, of which he was to be the Rector Magnificus. So he made an elegant literary speech in the Senate . . . ."[142] Adams also believed other personal factors were working, as Churchill C. Cambreleng of New York, in spite of earlier discussions on the subject and the ex officio opinion of the Attorney General to the contrary, slipped into the General Appropriations bill a provision for the $10,000 procurement charges to be deducted from the Smithsonian principal. Adams was "deeply mortified not to have detected this dirty trick . . . . I believe he did it to spite me."[143]

Nothing came of these early bills in this session of the Congress. Adams did not present his detailed report to the House, "for I knew it would be in vain," but the Robbins bill of particulars did reach the Senate floor for discussion. "The debate in the Senate upon Robbin's bill is published in the *National Intelligencer* of this morning; and a debate between Great Cibber's brazen brainless brothers at the gates of Bedlam would be more rational; and a debate between Jonathan Wild the Great and Barrington of Botany Bay as honest as the discussion in this dignified body upon this munificent and magnificent bequest. Calhoun's speeches on the subject are the very delirium of malignity. Grundy and Poinsett both spoke fair words—so did Woodbury when I went to him about it. But I almost despair of doing anything effective with it."[144]

Adams's heart was heavy as the months slipped by without further action:

The private interests and sordid passions into which that fund has already fallen fill me with anxiety and apprehensions that it will be squandered upon cormorants or wasted in electioneering bribery. The apparent total indifference of Mr. Van Buren to the disposal of the money, with his *general* professions of disposition to aid many; the assentation of all the heads of Departments, without a particle of assistance from any one of them except the Attorney General, Grundy, whose favorable opinion Cambreleng, at the last session, contrived to nullify; the opposition, open and disguised, of Calhoun, Preston, and Waddy Thomson even to the establishment of the Institution in any form; the utter prostration of all public

[141] *S. Doc.*, 25th Cong., 3rd sess., p. 234.
[142] *Memoirs*, X, p. 108.
[143] *Ibid.*, p. 109.
[144] *Ibid.*, pp. 112–13.

spirit in the Senate, proved by the encouragement which they gave to the mean and selfish project of Asher Robbins to make a university, for him to be placed at the head of it; the investment of the whole fund, more than half a million of dollars, in Arkansas and Michigan State stocks; and the dirty trick of filching the ten thousand dollars from the fund last winter to pay for the charges of procuring it—are all so utterly discouraging that I despair of effecting anything for the honor of the country, or even to accomplish the purpose of the bequest—the increase and diffusion of knowledge among man. It is hard to toil through life for a great purpose with a conviction that it will be in vain; but, possibly, seed now sown may bring forth some good fruit hereafter. In my report of January, 1836, I laid down all the general principles upon which the fund should have been accepted and administered. It was then wholly successful; my bill passed without opposition, and under its provisions the money was procured and deposited in the Treasury, in gold. If I can not prevent the disgrace of the country by the failure of the testator's intention, by making it the subject of a lecture I can leave a record for future time of what I have done, and what I would have done to accomplish the great design, if executed well.[145]

Regardless of his apprehension, he continued to direct his attention toward perfecting a measure which would bring into being a Smithsonian Institution worthy of the great designs of the testator, and in March 1840 presented the report of his committee, though he was "convinced that nothing good can be done upon this subject by this Congress."[146]

It explained to the House in considerable detail the basis for the accompanying bill. Fundamentally, the select committee members believed that the bequest should remain intact as a perpetual annuity, with the Institution maintained solely from its income, and that no educational institution, college, or university should be created from Smithsonian funds. They regarded the ultimate object of any such establishment as instruction, the communication of knowledge already possessed, and not the discovery of new truths, "the increase . . . of knowledge." Further, they thought the educational needs of the city of Washington were adequately cared for by the Columbian College and the neighboring Georgetown College; to create another would substantially injure or destroy either or both of these. Also, it was the opinion of the committee that this trust was "more comprehensive in its object, more extensive in its design, and therefore more appro-

[145] *Ibid.*, p. 139 (October 26, 1839).

[146] *Ibid.*, p. 229 (March 5). Adams found no encouragment in the support offered by Mr. Ferdinand Hassler, who, though busy with superintending the United States Coast Survey and Weights and Measures, was "much disposed to take hold of the Smithsonian bequest." His idea was to create an astronomical school before the erection of the astronomical observatory. "At the head of this astronomical school he would naturally find his place, and would contrive to absorb the whole fund in the management of it." *Ibid.*, pp. 191–92 (January 13, 1840).

priate for the exercise of national powers than the mere education of children," which they believed to be "a solemn and imperative duty of their parents . . . and so far as it connects itself with social relations and becomes a subject of legislation it belongs to that class of interests and concerns which, under our complicated system of government, are considered as exclusively confined to the authorities of the separate States." Had Smithson had in mind the creation of an educational institution, to have used those specific words would have been the most logical procedure; again, had he this object in view, why should he have selected the United States rather than his own native land as the site? The need for schools there was even greater than in our own country. His object, it was their opinion, was much more inclusive and comprehensive, the improvement of all the arts and sciences; their suggestion of the development of practical astronomy through the creation of an observatory was made merely because they believed that this science most deserved immediate attention. They pointed out the values which had accrued to other countries by similar studies. They considered the benefits accumulating from such a study to be more general than would be true if an agricultural, military, naval, or similar specialized school were set up. As an appendix to their report the select committee added an estimate of the expenses of erecting an astronomical observatory, and included also correspondence with Christopher Hughes on the subject of the operation and maintenance of the Royal Observatory at Greenwich.[147]

Nothing further was done by either house at this time. In the House the bill remained on the calendar during both sessions of the 26th Congress; there was no selected committee appointed at the second session nor the special session of the 27th Congress. Not even President Tyler's reassurance to Adams, "that he would co-operate cordially with me for the faithful application of these funds for the purpose of the testator," brought results. It will be recalled that during this period the concern of the legislators who felt the matter worthy of thought was concentrated upon the financial aspects of the fund rather than the organization of the institution.[148]

Following the Presidential message of December 7, 1841, which suggested "the propriety of making, without further delay, some specific application of the funds derived under the will of Mr. Smithson, of England,

[147] *H. Doc.* 277, 26th Cong., 1st sess., pp. 12–37.

[148] See above, pp. 456 ff.

for the diffusion of knowledge," the subject in the House was referred to a new select committee and in the Senate to the Committee on the Library, neither of which reported until the following April. Adams felt his usual anxiety, fearing "that nothing will be done of any use," but nonetheless tried to hold weekly meetings of his committee. The first difficulty to obtain a quorum had by mid-February given way to an earnest attempt to revise the old bill into a feasible measure. "Every provision of every section was contested, and the only sound principle settled was that the principal sum of the bequest should be preserved unimpaired as a perpetual fund, from which no appropriation shall be made." Eventually at their hands the bill was "thoroughly riddled."[149] Habersham of Georgia argued against the observatory, basing his objection on

> the danger and difficulty of carrying it through Congress; and he said that only yesterday one of the members from the South urged, in a conversation with him, that Congress had no constitutional power to accept the bequest, and that the money ought to be sent back to England. I saw the finger of John C. Calhoun and his nullification, and said that the objection against the power of Congress to accept the bequest would not be removed by striking out the observatory; that Mr. Calhoun and his coadjutors had urged it from the beginning, and it had been time after time settled against them; that any application of the fund to the purposes of the testator would be resisted by them, and if anything was to be done it must be carried against their stubborn opposition.[150]

The bill which Adams presented in April 1842[151] suffered the fate of its predecessors, the attention of the Congress was turned to other matters, and not until early in 1844, when the financial storm broke with Adams's resolution calling upon the Secretary of the Treasury for a report of the state and condition of the funds,[152] was the Smithsonian bequest brought to discussion.

Another Adams committee bill, offered in June 1844, was not reported upon by the House Committee of the Whole, but Senate Bill 18, introduced by Benjamin Tappan into the other chamber at the same time, was brought out of committee for debate some six months later. Senator Tappan desired interest from the fund to be expended upon

> works on science and the arts, especially such as relate to the ordinary business of life, and to the various mechanical and other improvements and discoveries which may be made . . . . Suitable ground for horticultural and agricultural experiments . . . . A suitable building . . . with suitable rooms or halls for the reception

[149] *Memoirs*, XI, pp. 112–13.
[150] *Ibid.*
[151] *H. Rpr. 587, H. Bill. 386*, 27th Cong., 2nd sess.
[152] See above, p. 458.

and arrangement, upon a liberal scale, of objects of natural history, a geological and mineralogical cabinet, a library, a chemical laboratory, and a lecture room or rooms . . . . Some suitable person as professor of natural history, a professor of chemistry, a professor of geology, and a professor of astronomy, with such other professors as the wants of science may require . . . . Also able men to lecture in the institution upon the arts and sciences . . . . *Provided*, That no professorship shall be established or lecturer employed to treat or lecture on law, physic, or divinity, it being the object of the institution to furnish facilities for the acquisition of such branches of knowledge as are not taught in the various universities . . . . In prescribing the duties of the professors and lecturers, they [board of managers] shall have special reference to the introduction and illustration of subjects connected with the productive and liberal arts of life, improvements in agriculture, in manufactures, in trades, and in domestic economy . . . . And it shall be competent for the said managers, at their discretion, to cause to be printed and published, from time to time, works, in popular form, on the sciences and on the aid they bring to labor, written by the professors of the institution, or by other persons engaged for the purpose: *Provided*, That such works shall, at all times, be offered for sale at the lowest rates that will repay the actual expense of publication . . . .[153]

Senator Rufus Choate believed the institution proposed by the honorable senator from Ohio "wholly unnecessary and in a great degree useless," since our country had already more than a hundred colleges, "at the doors of the people"; and was inclined to think that another would injure those already set up, "by withdrawing from them some portion of the patronage for which they are all struggling, and of which so few get a full meal." Not only that, but he could not see that such an institution would be generally useful, since only the wealthy could afford to come to it from the various parts of the country, and they would not, of course, be interested in the type of education which it offered.

The senator from Massachusetts offered instead two possible applications of the fund. He would have a small portion of it (less than $5000 annually) devoted during two or three months of every session of Congress to lectures

by gentlemen eminent in science and literature, holding situations elsewhere, and coming hither under the stimulations and with the ambition of a special and conspicuous retainer. They might be professors of colleges, men of letters, persons distinguished in the professions, or otherwise. . . . Who would their audience be? Members of Congress, with their families, members of the Government with theirs, some inhabitants of this city, some few strangers who occasionally honor us with visits of curiosity or business. They would be public men, of mature

[153] *Congressional Globe*, 28th Cong., 2nd sess., pp. 105–07.

years and minds; educated, disciplined to some degree, of liberal curiosity, and appreciation of generous and various knowledge . . . . The lectures should be framed accordingly. I do not think they should be confined to three or four physical sciences in their applications to the arts of life—navigation, useful or hurtful insects and animals, the ventilation of rooms, or the smoking of chimneys. This is knowledge, to be sure; but is not all knowledge, nor half of it, nor the best of it. Why should not such an audience hear something of the philosophy of history, of classical and of South American antiquities, of international law, of the grandeur and decline of states, of the progress and eras of freedom, of ethics, of intellectual philosophy, of art, taste, and literature in its most comprehensive and noblest forms? . . . But the subjects of lectures would of course be adapted to time, place, and circumstances, and varied with them. Whatever they treat of, they would be useful. They would recreate and refresh and instruct you. They would relieve the monotony and soften the austerity and correct all the influences of this kind of public service.[154]

But this was only a minor consideration. Choate thought that "we can not do a safer, surer, more unexceptionable thing with the income, or with a portion of the income—perhaps $20,000 a year for a few years—than to expend it in accumulating a grand and noble public library; one which, for variety, extent, and wealth, shall be, and be confessed to be, equal to any now in the world."

Nobody can doubt, I think, that it comes within the terms and spirit of the trust . . . . And do not the judgments of all the wise, does not the experience of all enlightened States, does not the whole history of civilization concur to declare that a various and ample library is one of the surest, most constant, most permanent, and most economical instrumentalities to increase and diffuse knowledge? There it would be—durable as liberty, durable as the Union; a vast storehouse, a vast treasury, of all the facts which make up the history of man and of nature, so far as that history has been written; of all the truths which the inquiries and experiences of all the races and ages have found out; of all the opinions that have been promulgated; of all the emotions, images, sentiments, examples of all the richest and most instructive literatures: the whole past speaking to the present and to the future . . . . Is that not an admirable instrumentality to increase and diffuse knowledge among men? It would place within the reach of our mind, of our thinkers, and investigators, and scholars, all, or the chief, intellectual and literary materials, and food and instruments, now within the reach of the cultivated foreign mind, and the effect would be to increase the amount of individual acquisition and multiply the number of the learned. It would raise the standard of our scholarship, improve our style of investigation, and communicate an impulse to our educated and to the general mind.[155]

Choate maintained also practical justification for such an expenditure of

[154] *Ibid.*

[155] *Ibid.*

the fund; not only did one have before his eyes the property to speak for itself, but in the administration of a library there would be so few jobs and sinecures, "so little salaried laziness. There is no room for abuses in it. All that you need is a plain, spacious, fireproof building; a librarian and assistants; an agent to buy your books, and a fire to sit by." There was a dearth of good libraries in our country, hence there was certainly a need for this one he proposed. It would become a drawing card for the intelligentsia of other countries, as well as those from various parts of our own, and might serve to make of them not only better scholars, but better Unionists. The knowledge which all who came to the library would gain would be communicated to others: "They can not hoard if they would, and they would not if they could. They take in trust to distribute, and every motive of ambition, of interest, of duty, will compel them to distribute. They buy in gross to sell by retail. The lights which they kindle will not be set under a bushel, but will burn on a thousand hills. No, sir, a rich and public library is no antirepublican monopoly." And finally, he could see no reason why "there should be one drop or one morsel more of the bread or water of intellectual life tasted by the European than by the American mind."[156]

Here was the opportunity the National Institute had been waiting for. Senator Levi Woodbury suggested the propriety of recommitting the bill in the hope that there could be secured a "harmonious blending of the propositions of the two Senators, properly modified." He could see no need, however, for the establishment of a salaried board of managers when there was already in existence in Washington a National Institute whose objects were "peculiarly appropriate to those of the trust now under consideration" to whose officers "the pursuit of knowledge and its diffusion are labors of love, for which they seek no pecuniary reward." This trust should be confided to them. After some delay the bill was recommitted; the subject of the Institute was to be taken up with the resumption of debate.

When the bill returned from committee Woodbury proposed that the management of the Smithsonian be headed by the following committee:

> The National Institute, through its officers, not to exceed their present number, and associate with them four other scientific gentlemen, from different portions of the Union, to be selected by the Joint Committee on the Library; and said committee to exercise, from time to time, a supervision and control over this board, in

[156] *Ibid.* For further Senate debate on the library question, see *ibid.*, pp. 115–17.

behalf of Congress, and see that its directions, as expressed in this act, or in any future act, be duly carried into effect; and to prescribe safe rules to be adhered to in drawing from the Treasury and auditing all moneys whatever expended from the Smithsonian fund; and none of the said board, nor any of said committee, shall receive any compensation for their personal services on this subject from the fund aforesaid, but he paid only their travelling expenses.[157]

Buchanan and Choate regarded this as a suitable occasion for securing a "test vote of the Senate on the question whether Congress or the National Institute shall have the management and control of the Smithsonian library," and Tappan hoped the amendment would not prevail. Even though the chairman of the Library Committee some sessions ago (Preston) had made a report and submitted a bill with provisions similar to those of this amendment, it had been done with the express understanding of the committee that only he favored or would sustain it.

In view of Woodbury's amendment Choate defended and explained the action of the Library Committee in its preparation of the bill. Though feeling "nothing but respect in the highest degree for that Senator and his associates of the National Institute" (as "colaborers in the advancement of science and the diffusion of knowledge among men they had already done a good deal"), Choate in various conferences in the committee had ascertained that Woodbury's amendment would make enemies of many who would otherwise sustain the Smithsonian bill. On the other hand, the bill as it had been presented to the chamber "was unanimously adopted as a happy embodiment of the main principles of all former propositions," which augured well for its successful passage this session. In drawing up this measure the committee had analyzed the records of all proceedings in Congress since the bequest had been received, and "conceived they could not be mistaken in combining from the whole such general principles as would unite the greatest number of friends to the main object." He did not consider that they had "made a complex, expensive, or impracticable plan of machinery for the management of the institution; but, on the contrary, one preeminently likely to work well—economically, efficiently, and practically considered." The committee had found that a large majority had concurred

that the Vice-President and Chief Justice of the United States should be ex officio members of the board, and that they should have associated with them one or two respectable resident members of the National Institute . . . that three members of the Senate and three of the House of Representatives should be made members of

[157] *Ibid.*, p. 162.

the board . . . . These six members would form a joint standing committee and have charge of the institution in Congress, for the committee decided that Congress should hold in its own hands the control and supervision of the institution. Thus Congress would have the interests of the institution immediately represented on the floor of both Houses. In addition to those eight ex officio members of the board, there would be seven persons to be selected by Congress—two of them from the resident members of the National Institute, the remainder from different States of the Union. Hereafter these seven would be elected by joint resolution of Congress every two years. This would afford an opportunity of electing gentlemen distinguished as men of science and learning, who, from the respect entertained for them, would be able to enlist the most friends for the institution and would have the best opportunities of making the citizens of the Union acquainted with its object and advantages.

In closing, Choate introduced the question of the relative republican-democratic principles of the two propositions. "It was certainly anti-republican and antidemocratic to surrender all control of the people's benefit and place it in the hands of a close body like the National Institute, wholly irresponsible to either Congress or the people—a body the machinery and operations of which, so far as regarded the people, were shut out from their view and to which they could of right have no access."

Woodbury believed this charge to be wholly unjustified, asserting that under his suggested plan control would remain entirely in the hands of Congress; indeed his measure increased the reserve control of Congress through the constant supervision and check of the Library Committee for which it provided. Further, Congress retained always the power to amend or even abolish the whole board. "It seems, also, to be apprehended by some gentlemen that the National Institute is to have a great donation of property, as well as power, by this amendment; when, in truth, no power is bestowed except conditionally, and which is not kept constantly under the control of Congress; and not a dollar of property, directly or indirectly, is given to the institute."

"A great national institution like the Smithsonian library" Buchanan desired to "keep . . . clear or detach . . . and keep . . . distinct from the National Institute or any other literary corporation whatever." Unless Congress took upon itself the immediate control of this library it would never succeed. He was not acquainted with the rules of the National Institute, and did not know the manner of election of its managers, but undoubtedly Congress was capable of administering the fund without their aid. "Without, therefore, troubling the Senate with any further observations, he should certainly go for separating the operations of this library

from those of the National Institute, wishing and hoping that that institute might have all the success which he believed it so well deserved, and if it should be made a rival in disseminating knowledge among men with the library, well and good. The more knowledge communicated, the better for the people of this country."

But Mr. William Allen of Ohio wished to relieve himself of a few remarks on the subject:

This title, "National Institute," sounds large, and at a distance is calculated to produce a great impression upon the public mind. What is it? Some years ago a few gentlemen of this city got together and concluded to form a literary and scientific association among themselves. Well, that thing has been done in every city, and in most of the villages and towns of the United States, from little debating societies composed of young men, up to literary associations composed of gray-headed men. All of these associations, of which there are so many in this country, are like that in the city of Washington, formed in the same way, and are mere voluntary associations of man with man. But this association in Washington City, finding a Capitol here and a public Treasury here, called itself a National Institute; and, in order to legalize its claim to that pompous title it asked Congress to give it a corporate existence by a solemn law. After they got associated in the public mind the idea of its *nationality*, they succeeded in getting a law passed giving it a legal existence, and then they began to enter into the organization and to claim a part in the administration of the Government. That institute came here with the very instinct of all corporations—to get its hands into the public Treasury of the country by a process of induction. It proceeded with that modesty and imposing humility which characterize the movements of all corporations. It began by obtaining the temporary charge of objects of science belonging to the Government; and being intrusted with the custody of that part of the public property which resulted from the exploring expedition, there was a motion made toward the public Treasury. Having proceeded so far, it proceeded a few years after to ask Congress to pay it moneys out of the public Treasury, and for what? For its care of these very articles of public property which as a favor of the Government, it had asked to be intrusted with the care of.

This Senate, which sits here for its constituents, was nevertheless so unjust, in my judgment, as to tempt this corporation to its present advances by the fatal step of making for it a public office and paying it $5000 for the favor which the institution had asked in taking care of the articles resulting from the exploring expedition. I opposed that bill at the time it was upon its passage through the Senate; and I then said—what is now seen—that the attraction of this corporation was toward the public Treasury . . . .

Congress has no right to intrust the administration of the public funds to any functionary of this Government, much less to an irresponsible agent, unknown to the Constitution of the United States, calling itself a National Institute. If we had a right, I would be opposed to this bill, for I can say that within my reading and

my observation I have never known a single instance of a fund of money, charitable or otherwise, being intrusted to the care of an incorporated body of men that was not squandered and made to fall short of the object of the donor. It is the instinct of these machines called corporations, and it is impossible for it to be otherwise. Intrust this corporation with the administration of this fund, and it will be just as much throwing it away as to throw it into the mud banks of the Potomac .... This society in Washington City, which calls itself a National Institution, has no more right to the direction and control of this fund than the Wistar Club in Philadelphia . . . or any literary society in the East, or West ....

It is said that this fund is to be applied in the District of Columbia. That that very idea gave rise to the origin of the National Institute I have no doubt. Here was a fund to be expended here; and of course there must be somebody to receive it, and what so handy as a corporation? What so convenient as to take into its hands a fund of money which has to be expended? What so convenient as a corporation got up for the purpose of receiving it? And what was better calculated to lead Congress into their objects than to take the title of *national?* National! A word always dear to the American people—so dear that many an inn, tavern, and eating house throughout the country bears the title, and I believe there is an establishment somewhere in town here which bears upon its sign "The National Eating House!" Now as to the formation of a society for the increase and diffusion of knowledge, that is well enough; but I do not want to see these things take a literary and scientific name for the purpose of thrusting their hands in the Treasury. I do not want to see corporations of men under high-sounding titles, and professing beneficial objects, formed in this capital with a view to enter into the control of public funds.[188]

Senator Walker's defense of the National Institute presented the facts that the National Institute began long before the fund was received, that it originated with a "distinguished member of the Cabinet of Mr. Van Buren, now in honorable retirement, and from no individual did it receive more encouragement, or stronger marks of approbation, than from ex-President Van Buren himself, by numerous valuable presents, and by every other means in which he could manifest his regard .... The individuals who originated this institution were eminently democratic."

The Smithsonian Institution originated from an individual in England, entirely foreign—the very name is foreign. How is it with the National Institute? It sprang from the people. It bears a name that is dear to the people; and it has received the manifest encouragement of the people of the United States. I speak now not merely of the colleges scattered all over the Union that have contributed to its aid and support. I speak not merely of the scientific men who assembled at this Capitol not long since and gave it their encouragement and support; but I speak of the people in the humblest walks of life, scattered all over this

[188] *Ibid.*, p. 164.

Union—residing in every State of the Union—who, from year to year and month to month, have forwarded presents. And why is it that this institute is dear to the American people? Because it is national—because it is American. They wish to see an institution here bearing the name of the nation, which shall give to the United States the same happy range in science that this Government has done in political affairs . . . .

Who are the persons who would have charge of this [Smithsonian Institution] under the National Institute? Who are the directors? There is the President of the United States. Is this not democratic? Is he not the only man in our Government who is elected by the whole people of the whole Union? And who, together with him, constitute a majority of the directors? Why the Cabinet, deriving their appointment directly and immediately from the Chief Magistrate, who is himself the chosen of the whole American people.[159]

Walker called the attention of the Senators to the fact that the members of the National Institute would always be in Washington, and were not to receive any compensation. He considered that committing the fund to their care would not only best accomplish the intention of the donor, but would serve to give additional permanency to and aid the National Institution. But debate had revealed the tenor of the Senate; Woodbury's amendments were withdrawn and the extent of the voice of the National Institute in the management of the Smithsonian was limited to its two members on the board. After slight changes, two days later, January 23, the Senate bill was passed.

There remained but one step, the securing of House approval, before the Smithsonian Institution could come into being. This, however, was not to be accomplished for more than a year. S. 18 was brought to the House floor, where it was laid aside, despite "the absurd amendment proposed . . . by Robert Dale Owen, of Indiana, and the desperate plunges made by him, and by Burke, of New Hampshire, to force the bill upon the House in its last agonies . . . ."[160] Owen's substitute bill, H.R. 5, introduced to the first session of the 29th Congress, was referred to a select committee which he headed. Adams was reporting in January and February 1846, "Some progress—very little . . . discussion . . . desultory . . . . No two members, excepting Mr. Marsh and myself, have agreed in opinion with regard to the future management of the fund. I doubt if there will be more harmony in the House, for never was there a benevolent and charitable purpose more unfortunately endowed than that of James Smithson, entrusting to the good faith and intelligence of the North American Congress."[161]

[159] *Ibid.*

[160] Adams, *Memoirs*, XII, p. 199.

[161] *Ibid.*, pp. 239–40, 250–51.

On February 28 Owen reported a substitute for H.R. 5, and a resolution making it the special order of the day for the "second Tuesday in April next," which was agreed to.

After a consideration of the long time which had elapsed since the acceptance of the trust, and the fact that the Senate had finally agreed on an establishment, members of the House generally believed that further delay in setting up some kind of establishment was denial of intention ever to do so, and realized that a compromise measure was the only solution. In presenting such a bill Owen called attention to the remarks made by Rush some two years previously that if such delay had been anticipated by the English chancery judges the court "might have forestalled the decree in our favor in the unrestricted manner in which it was made." Simply because we were not legally accountable made us all the more responsible morally. Owen recalled "the gambler, beyond the pale of the law, commonly retains honor enough to meet his promises. We have less than the gambler's honor if, sheltered behind our sovereignty, we take advantage of the impunity it affords and become unfaithful to a high and imperative duty." From the various suggestions for disposal of the fund which from time to time had been made, certain advisable features might well be obtained. Throughout the years none had "labored in this good cause with more zeal and perseverance" than had John Quincy Adams in his attempt to bring into being a national observatory. "Inasmuch as these his intentions have been since otherwise carried out, and as we have already in this District a Government observatory, at least equal in everything but the experience of its observers to the Royal Observatory at Greenwich, he has ceased to press that proposal." Owen pointed out that the present bill up for the consideration of the House embodied the earlier recommendations of Adams for botanical garden, natural history cabinet, museum of mineralogy, conchology, or geology, and a general accumulating library, as well as Tappan's experimental farm, and Choate's course or courses of lectures to be delivered during sessions of Congress.

He could not recommend Choate's proposed extensive library, however. He did not discount the "blessings which the art of printing has conferred upon man," but could see no justification for such an expenditure as the Senate would have, particularly in view of the Library of Congress which we had already. "This purchasing of a reply to some silly traveler's idle taunts at a cost of a million and a half of dollars, including a fund sacredly pledged to human improvement, seems to me a somewhat costly and

unscrupulous mode of gratifying national vanity. It is ineffectual, too, unless we are prepared to add a few millions more to buy up, if money could buy, the means of reply to other taunts, quite as just and quite as likely to be cast up to us"—the lack of collections of art, for example.

> It grieves me not that the fantastic taste of some epicure in learning may chance to find on the book shelves of Paris some literary morsel of choice and ancient flavor, such as our own metropolis supplies not. I feel no envy if we republicans are outdone by luxurious Europe in some high-seasoned delicacy of the pampered soul. Enough have we to console ourselves—objects of national ambition, how much higher, how infinitely nobler than these—objects of national pride, before which these petty antiquarian triumphs dwarf into utter insignificancy! Look abroad over our far-spreading land, then glance across to the monarchies of the Old World, and say if I speak not the truth . . . . And shall we grudge to Europe her antiquarian lore, her cumbrous folios, her illuminated manuscripts, the chaff of learned dullness that cumbers her old library shelves? A "pang of envy and grief" shall we feel? Out upon it! Men have we; a people; a free people, self respecting, self-governing; that which gold can not buy; that which kings can not make! Grief! Envy! Theirs let it be who look upon this young land in her freshness, in her strength! Let them feel it who behold, from afar, our people bravely battling their onward way; treading, with liberty at their side, the path of progressive improvement, each step upward and onward—onward to the great goal of public virtue and social equality.

But this equality could be brought about or approximated only when there were available equal opportunities for education, hence Owen as one of the principal features in his bill incorporated a normal school. "This, and the clause providing for original researches in natural science, are the only important additions that have been made in it to Senator Tappan's bill of last session." He did not intend for the Smithsonian normal branch to take the place of the state normal schools, but only to aid and supplement them by offering additional training of a higher grade to prospective teachers in these state schools. The Smithsonian school would also include professorships in the "more useful arts and sciences."

Opposition to specific points in the proposal was raised, but it was of a nature much less spirited than debate had been in the Senate on S. 18 the preceding year. Still present were a very few like G. W. Jones of Tennessee who offered an amendment that the most suitable disposition of the money should be that it be "Paid by the Secretary of the Treasury to the heirs at law or next of kin or residuary legatee of the said James Smithson, or their authorized agents, whenever they shall demand the same," but the rejection of this by a 115 to 8 vote indicated quite clearly

that their cause was lost. Somewhat surprising was the amendment offered by Adams that any further action be delayed until Arkansas and the other debtor states had paid into the Treasury the interest which they owed; this likewise was rejected. The spirit of compromise prevailed. Bit by bit the Owen bill was modified, the most significant of these changes being the striking out of the section and pertinent clauses setting up the normal branch. Finally the House adopted a substitute bill of W. J. Hough of New York, which, after being reported and engrossed, was by an 85–76 voted passed.[162]

On August 10 "The Senate proceeded to consider the bill (H.R. 5) to establish the Smithsonian Institution for the increase and diffusion of knowledge among men, together with the amendments reported thereto; and the reported amendments having been disagreed to, the bill was reported to the Senate. Ordered, That it pass to a third reading. The said bill was read a third time. On the question, 'Shall this bill pass?' It was determined in the affirmative—yeas, 26; nays, 13."[163]

The first problem of the Board of Regents, created immediately after the passage of the act, was to elect a secretary for the newly-formed Institution. Within the Board could still be found the two fundamentally conflicting opinions which had prevailed previous to the passage of the act: the one advocating the expending of a larger part of the income on library and museum, and the other favoring the publication of scientific memoirs, grants for the promotion of original researches, and the maintenance of a lecture system. Early in December 1846 the Regents selected Joseph Henry, "of the College of New Jersey,"[164] who by his plan of organization previously submitted to them had indicated that his sympathies lay with the latter group. This might be interpreted as a defeat for the library and museum forces, but the 7–5 vote by which the new secretary was chosen shows that the matter was not a closed issue in any sense. Once again compromise was necessary. As the most fair and speedy solution,

[162] *Congressional Globe*, 29th Cong., 1st sess., p. 750.

[163] For the bill as passed, see *United States Statutes*, IX, p. 102 (Chapter CLXXVIII).

[164] Henry (1797–1878) had been elected to the professorship of Natural Philosophy in the College of New Jersey at Princeton in 1832. During his years at this institution he had distinguished himself by his researches on the induction of a current by another current, and (in conjunction with his brother-in-law, Stephen Alexander) in the investigation of solar radiation and the heat of sun spots. Henry, it will be recalled, had independently, if not priorly, detected the induced current which is credited to Faraday. He had helped organize the American Association for the Advancement of Science; later he was to become one of the charter members of the National Academy of Sciences, and serve as its president from 1868 until his death.

the regents decided that the annual income should be divided into nearly equal parts for the furtherance of both aims.

Henry's attitude regarding the museum and library was at first noncommittal. "He proceeded slowly, evidently not for lack of courage, but with the methods of a man of science, studying the results of different courses of policy, and, when he expressed an opinion, speaking from the standpoint of experience."[165] He wished to avoid the immediate absorption of a large part of the income which would necessarily result from extensive purchases in these fields. Too, he was not unmindful of the unfortunate precedent of the National Institute whose demise was in large part, if not wholly, affected by the overwhelming mass of museum materials placed in its charge without the financial wherewithal to sustain it. In 1850 he first took a stand in opposition to the transfer of government collections to the Smithsonian Institution. "The answer made to some of these objections has usually been, that the Government would grant an annual appropriation for the support of the museums of the exploring expedition. But this would be equally objectionable, since it would annually bring the Institution before Congress as a supplicant for Government patronage, and ultimately subject it to political influence and control."

> After an experience of three years, I am fully convinced that the true policy of the institution is to ask nothing from Congress except the safe-keeping of its funds; to mingle its operations as little as possible with those of the general government, and to adhere in all cases to its own distinct organization, while it cooperates with other institutions in the way of promoting knowledge; and on the other hand, that it is desirable that Congress should place as few restrictions on the institution as possible, consistent with a judicious expenditure of the income, and that this be judged of by a proper estimate of the results produced.[166]

His ideas gradually changed. By 1854 Henry in his annual report recognized the value of collections and the like, but believed support should come from some place other than the Smithsonian fund: "The Smithsonian Institution, if required, would take the supervision of a Government museum, and would turn over to it all the specimens collected after they had been examined and described. The importance of a collection at the seat of Government to illustrate the physical geography, natural history, and ethnology of the United States, can not be too highly estimated. But the support of such a collection ought not to be a burthen upon the Smithsonian fund." Two years later he had gone somewhat farther:

[165] Goode, "Genesis," p. 335.

[166] *Fourth Annual Report of the Board of Regents of the Smithsonian Institute* (1850), *Senate Misc. Doc. 120*, 31st Cong., 1st sess., p. 21.

It may be a question whether . . . it would be well to offer the use of the large room immediately for a national museum, of which the Smithsonian Institution would be the mere curator, and the expense of maintaining which should be paid by the General Government. The cost of keeping the museum of the Exploring Expedition, now in the Patent Office, including heating, pay of watchmen, &c., is about $5,000, and if the plan proposed is adopted the Institution and the Patent Office will both be benefitted. The burden which is now thrown on the Institution, of preserving the specimens which have been collected by the different expeditions instituted by the Government during the last ten years, will be at least in part removed, and the Patent Office will acquire the occupancy of one of the largest rooms in its building for the legitimate purposes of its establishment. It is believed that the benefit from this plan is so obvious that no objection to it would be made in Congress, and that it would meet the approbation of the public generally.[167]

Meanwhile the conflict had become intensified among the regents. Early in 1855 they repealed their compromise measure and resolved: "That hereafter the annual appropriations shall be apportioned specifically among the different objects and operations of the Institution in such manner as may, in the judgment of the Regents, be necessary and proper for each, according to its intrinsic importance and a compliance in good faith with the law." By January 13 Choate had submitted to the Congress his resignation from the Board, "from my inability to concur or acquiesce in an interpretation of the act of Congress constituting the actual Institution and the Board of Regents, which has been adopted, and is now about to be practically carried into administration by a majority of the board." The action of the regents was unanimously upheld by the Senate; from the select investigating committee of the House both majority and minority reports were submitted. Again congressional chambers resounded with Smithsonian arguments pro and con, even as had the public press since Henry's dismissal of a library assistant the preceding year.[168]

Friends of the Institution called attention to its accomplishments: a library of 15,000 volumes, "for the most part composed of the most valuable works pertaining to all branches of human knowledge," 10,000 parts of volumes and pamphlets, total valued at $40,000; museum worth $30,000; apparatus $10,000; international exchange system of publications and "correspondence and friendly relations" with home universities, colleges, and scientific societies, and 342 foreign institutions; lectures upon popular and scientific subjects; publications which included six volumes of

[167] *Eleventh Annual Report of the Board of Regents of the Smithsonian Institution* (1857), *Senate Misc. Doc. 54*, 34th Cong., 3rd sess., p. 22.

[168] See, for example, the four-way Bostonian feud among *Advertiser*, *Post*, *Atlas*, and *Journal* throughout the period.

Contributions to Knowledge, three works in the field of mathematics and physics, six in astronomy, three in meteorology, two in chemistry and technology, eight in geography, ethnography, and philology, four in microscopical science, six in zoology and physiology, seven in botany, three in palaeontology, and three in bibliography. Much quoted was a letter of Professor C. C. Felton, professor of Greek at Harvard, who in June 1854 had just returned from abroad: "It gives me pleasure to notice the high estimation in which the Smithsonian Institution under its present management is held everywhere in Europe. The volumes published under its auspices have done highest honor to American science, and are considered most valuable contributions to the store of knowledge among men."

Opponents, on the other hand, declared the library value to be "a preposterously exaggerated estimate," and called it instead a "meager collection" of many "copyright books, imperfect sets of periodicals and publications of societies, and university theses . . . . I do not believe that an intelligent bookseller could be found who would value it at a third of the sum!" Regarding publications: "With the exception of a few octavo pamphlets, making in all only about 1,000 pages, the first six titles include the whole that follow. The rest are merely the table of contents of the first six." Nor could this critic find any good to say of the Smithsonian research: "I have looked through the Smithsonian publications, and made inquiries with the view of ascertaining what results they contain, procured at the Smithsonian laboratory. I could find none . . . . The books published were contributed to knowledge by the authors who wrote them. The Smithsonian laboratory is next to nothing, and nothing but experiments and illustrations for lectures have come from it, as yet, so far as I can find."

Hostile forces pointed, also, to the actual construction of the buildings of the Institution. Those friends who had in 1846 at the passage of the act breathed a sigh of relief and settled back comfortably to watch the establishment evolve were to have a long wait. It was decided by the financial managers of the fund that since a building and grounds worthy of the bequest would consume the entire accumulated interest, leaving for a number of years nothing for the operation of the institution, the wisest course of action would be to extend the actual building over a period of years (some eight were required—until 1855), with payment of the costs being made at the completion of the project, and the accumulating interest meanwhile being invested in order for the program to pay for itself. To the

strict constructionists, all who had fought the acceptance of the gift in whole or in part, needless to say, this "paper financing" was insult added to injury. Again, there were those whose aesthetic sense was sorely offended by the "garish monstrosity" being brought into existence.

Long, indeed, was the infancy and adolescence of the Smithsonian Institution, but, as from any period of trial and error, certain positive elements had emerged. Of concern to this study may be mentioned two, or perhaps more accurately, an anastomosis of two ramifications into one common trunk. Throughout the long debate which attended the establishment of the Smithsonian Institution and its policy, which the years have proved so well suited to the increase and diffusion of knowledge among men, can be traced the beginning of a gradual realization of the fact that in the United States, individualistic and freedom-loving though it was, concerted action in the scientific pursuit was an absolute necessity if the young nation were to maintain the pace set by European countries; but more than that, if American scientists as a group were to develop into the role of pace-setters, they must adopt a national scientific policy. The flowering of this idea was to require many years, but with the Smithsonian Institution, the first truly comprehensive national scientific agency, the interrelation of science and the national government was firmly established.

Notes & Queries

Edited by MAX H. FISCH*

M. André Vésale and World War I

DURING THE SUMMER of 1915 Baron Moritz Ferdinand von Bissing, Governor-General of Belgium, found himself increasingly harried by the "regularly irregular" appearance of that most constant and enduring of underground journals, *La libre Belgique*. His efforts to track down its patriot editor and end its dangerous power were unremitting, and in this connection every anonymous letter reaching his office was conscientiously investigated by his secret police. One of these letters, probably written by the editor himself, became the occasion for a refreshing episode which will give delight to students of Vesalius.[1]

The anecdote has been variously related in more recent years,[2] but no later account can possibly equal in vigor and in acid irony the embellished report of the incident which appeared in the next issue of *La libre Belgique*.[3] With the usual mystery and promptness a copy of this issue was laid on von Bissing's desk in the *Kommandantur* in Brussels. The report had been obligingly marked in blue pencil. After scanning the introductory paragraphs in which he and his secret police were likened to a vaudeville troupe giving highly successful open-air performances to a small but very select audience, von Bissing had the dubious pleasure of reading this review of his first engagement:

> We must here in passing express regret for the cowardice of the Belgian who wrote anonymously to our kind governor and gave him the address of our stout-hearted editor, M. André Vésale, who lives on Barricade Square. . . . Needless to say, once M. von Bissing knew the address of this friend who had already showed him so many attentions, he did not put off sending a deputy to him to pay him his respects and to inform him of his affection and good-will toward the people of Brussels. Von Bissing instructed his representative to try to touch the heart of our editor so that in the future he might be willing to pay him a little less attention, for ever since he was appointed governor-general von Bissing has had no rest at all.
>
> Our delegated officer, dressed in his finest uniform, with the Iron Cross glittering on his chest, went off in a resplendent automobile to pay this courtesy visit to André Vésale. Unfortunately the person who wrote to the Baron had forgotten to include on the invitation the number of the house in which this illustrious citizen lived, but Barricade Square is not large, and our officer told himself that he had only to ring at a few doors and he would soon have the needed information. And so, as a worthy disciple of *Kultur*, he proceeded methodically, ringing first at No. 1, then at 2, then at 3, then at 4, etc. André Vésale was not to be found. The maids who came with a frightened look to open the doors all declared that they did not know this individual. In short, after having made the entire circuit of the square without success, our officer lost his temper and demanded a word with the master of the last house where he had just rung. This

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[1] My first knowledge of this anecdote came through Dr. Florence Edler de Roover, whose husband, Dr. Raymond de Roover, a native of Antwerp and now Visiting Lecturer in Economics at Oberlin College, had long been familiar with it.

[2] Cf. Oscar E. Millard, *Underground News* (New York 1938) 125–26 and 135, and *Saturday Evening Post* 215 (Jan. 16, 1943) 59.

[3] Numéro 39 (Août 1915).

FIG. 1. Vesalius, by Joseph Geefs. 1847. Place des Barricades, Brussels. Courtesy Belgian Government Information Center, New York.

Fig. 2. Imp of Pain Button.

time he succeeded in getting his information. "What is it, sir?" "I was told that M. André Vésale lived here in Barricade Square, and I have been instructed by Baron von Bissing to convey a request to him." "Yes, indeed, M. André Vésale is my neighbor, but he is a queer fellow who sleeps in the open. If you wish to meet him, just go to the little garden out there in the center of the square. However, I fear you will find the gentleman quite unyielding, for he has a heart of bronze."[4]

The officer did not think it necessary to insist; in shame and confusion he got back to his automobile, which let out a raucous roar and disappeared like the wind in the direction of the *Kommandantur*, to the great joy of all the onlookers and guests who from their vantage points had watched every episode of the drama.[5]

DOROTHY M. SCHULLIAN

Primitive Medieval Incubator Technique for Premature Babies

Erwin H. Ackerknecht's interesting article on "Incubator and Taboo" in the opening number of the JOURNAL (1.144) states the fact that "the systematic use of incubators for the conservation of the premature child started only in the middle of the nineteenth century." He cites, however, from modern authorities, two examples of long standing primitive methods of infant incubation. Among the Eskimos the newborn child was wrapped in the soft skin of a big seabird; among the South African Thongas, in leaves from the castor oil plant. The wrapped child was then exposed to either artificial or sun heat.

These practices remind me of a somewhat similar procedure in Western Europe during the so called Dark Ages. As reported in a tenth-century chronicle written by Ekkehard, monk of St. Gall in Switzerland,

> [The wife of a certain count was heavy with child.] But, in the course of time, being pregnant, as she approached [the time of] childbirth, complications developed and she died fourteen days before the date of [expected] delivery. The infant was cut out and wrapped in fat recently removed from a slaughtered pig. When, in a short time, it appeared that the child was a normal baby, he was baptized and called Purchard.[6]

Although the passage is lacking in details, especially concerning the exposure of the infant to heat, it is evident that there was a Caesarean section[7] and that the pork wrapping was used to preserve its life. My colleague, Professor E. E. Ericson, is of the opinion that the name Purchard (from Porc-hard) may have been significant.

LOREN C. MACKINNEY

[4] The statue, by Joseph Geefs, was dedicated on Dec. 31, 1847. A photograph of it appears in M. H. Spielmann, *The Iconography of Andreas Vesalius* (London 1925), Plate LXIII, and an account of the inaugural ceremonies in *Arch. méd. belge* 24 (1847) 121–31. The photograph here reproduced (Fig. 1) does not show the base of the pedestal or the ground floor of the houses in the background.

[5] The success of the hoax was recalled in the anniversary issue of *La libre Belgique*, Numéro 62 (Février 1916), which carried on its front page a portrait of von Bissing sitting despondently at his desk. In the background and above his head are three cartoons relating to his ineffectual attempts to suppress the paper; one of these cartoons represents the statue of Vesalius.

[6] Ekkehard, *Casus Sancti Galli*, ch. 10; in *MGH SS* 2.120. The Latin text reads as follows: At tempore labente, appropinquans partui pregnans periclitatur, et ante quatuordecim temporivi partus dies emoritur. Infans excisus et arvinae porci recens erutae, ubi incutesceret, involutus, bonae indolis cum in brevi apparuisset, baptizatur et Purchardus nominatur.

[7] According to strict modern nomenclature, of course, a Caesarean performed on a deceased mother is not a true Caesarean. See my note "How Many First Caesareans," *Ciba Symposia* 3 (1941) 1024.

Brunschwig and Turner

WHEN a copy of Hieronymus Brunschwig's *A most excellent and perfecte homish apothecarye . . .* (Collen 1561) recently acquired from Schuman's, arrived at the Cleveland Branch of the Army Medical Library, it was the final link in a curious chain of incidents which solved one of those minor mysteries that lend spice to the life of a librarian. The chain began to unwind over a year ago, when we collated a book listed as follows in the First series of the *Index-Catalogue:*

> Turner, William [or Wyllyam] 1520?–68
>
> A most excellent and perfecte homish apothecarye or homely physick booke . . . Collen, A. Birckman, 1561. [At end:] Imprinted at London, by Steven Myerdman, and they are to be soolde by John Gybken.
>
> Probably one of the original London imprints of 1551, with a new title-page printed at Cologne.

Two leaves were missing, so we asked the Library of Congress for locations of other copies. They reported, in addition to our own, a copy at the New York Academy of Medicine.

We then asked the academy for photostats of our missing leaves. They replied that they could supply the photostats but gave the author of the work as Brunschwig, citing the Osler catalog, entry no. 2164, as authority. This puzzled us, especially when a check of Arber's *Herbals*—our book was obviously an herbal—revealed no such title. In the British Museum catalog we found an entry corresponding to that in Osler. Still unable to reconcile this with the book in our hands, we nevertheless asked the New York Academy to send the photostats. When received, these did not fit into the text of our volume.

A second and more searching check of Osler, entry no. 2164, yielded a clue in the form of a note, "Bd. with no. 4134," which proved to be Turner's *Herbal*, Collen, 1568. Might it be that what we had was Turner, with the title-page of Brunschwig?

A way to pursue this clue was opened by Schuman's, whose then current Catalogue Ten offered for sale both a copy of the 1568 edition of Turner and one of the Brunschwig. Mr. Schuman very kindly lent these to us for comparison with our puzzle. The Turner proved to have much the same text as our volume, but reset and with a third part added. Our volume had a dedication to the Duke of Somerset, while that offered by Schuman was dedicated to Queen Elizabeth. This comparison, together with what we read in Arber, made us sure that our Turner was of the 1551 London edition.

Our next step was again to ask the Library of Congress for location of copies. They reported a 1551 Turner in their collection, and sent us photostats of the title-page and of our missing leaves. This time the photostats filled the gaps exactly.

Meanwhile, we ordered and obtained Schuman's 1568 Turner and also the Brunschwig, whose title-page alone was already in our collection. The final solution of the mystery thus gives us both the 1551 and 1568 editions of Turner and, for good measure, the Brunschwig as well.

An added item of interest came with the 1568 Turner. Pasted to a fly-leaf is a

letter of 1897 from a London bookseller, William Wesley & Son, to W. H. B. Fletcher of Worthing, offering for sale two copies of the 1568 edition. In some old correspondence, Mr. Robert B. Austin found a letter, dated 1895, from the same dealer, containing a prior offer to the Army Medical Library of the copy Mr. Fletcher did not buy. Evidently no action was taken at that time, but in 1945 the Fletcher copy itself came to rest in the Army Medical Library.

How our 1551 Turner lost its own title-page and acquired a Brunschwig one in its place, we can only guess. Perhaps somewhere there is a Brunschwig with the Turner title-page.

JEANETTE BEEBE

Imp of pain (Fig. 2)

QUERY No. 7. In *Button Classics* (Couse and Maple, Lightner Publishing Co., 1941) on p. 115, plate 46, row 4, no. 7 center, there is shown this 3½ cm. two-piece button, pressed brass, pierced design, black background (see Fig. 2 facing p. 483), with the following note:

> From Lynda Voris, Illinois collector, comes the following identity: IMP OF PAIN, copied from an old woodcut. The counterpart was found in a medical treatise. This was evidently a medieval artist's way of depicting pain.

Can anyone identify the medical treatise or suggest another source?

IRENE M. STRIEBY

Dr. Sigerist's History of Medicine

FOR more than twenty years, Dr. Henry E. Sigerist has been at work upon a monumental history of medicine. The Oxford University Press has undertaken to publish it. Eight volumes are planned, and the first will go to press this year. The others will follow as rapidly as the manuscript is completed, probably at the rate of one a year. Volume I includes an introductory discussion of the antiquity of disease, of problems of historical and geographical pathology, and of primitive medicine. More than half of the volume is devoted to the history of medicine in the ancient Orient. Volumes II–IV will bring the narrative to the Renaissance and Volumes V–VIII will continue from the Renaissance to our own time.

Dr. Sigerist's work was prompted by the conviction that, while we have some very good one- or two-volume histories of medicine, there is need for a detailed treatment which will serve both as a synthesis and as a starting point for further research. To that end he has endeavored to present a readable but nevertheless fully annotated text, with appendices, illustrations, maps, charts, and whatever further apparatus may be required.

Victor Robinson Anniversary Volume

AUGUST 16, 1946, will be the sixtieth birthday of Dr. Victor Robinson, professor of the history of medicine, Temple University School of Medicine, Philadelphia. The occasion will be marked by the publication of a *Festschrift* in his honor. A

Celebration Committee of sixty scholars, scientists, and physicians has been formed, and several are contributing original articles to the Anniversary Volume. Among the overseas members of the Committee are Max Neuburger, Walter Pagel, Charles Singer, and Bernhard Zondek. The Chairman of the Committee is Solomon R. Kagan, 176 Seaver Street, Roxbury 21, Mass.

Anesthesia Number of the JOURNAL

TO MARK the anesthesia centennial, the October number of the JOURNAL will be devoted entirely to this subject. It will contain a large number of contributions by American and foreign authors dealing with several phases of the history of anesthesia and with the introduction of the discovery abroad. Illustrated articles on the development of anesthesia in Sweden, Germany, Spain, Portugal, Turkey, and Ecuador, as well as in the United States, have been received. Early anesthesia, mesmerism, endotracheal anesthesia, and the contributions of John Snow are also among the subjects treated.

Book Reviews

RALPH H. MAJOR. *Classic Descriptions of Disease.* Third Edition. Springfield, Illinois: Charles C Thomas, 1945. xxxii+679 pp., illustrated. $6.50.

TO STUDENTS of the history of medicine, Dr. Major's delightful and useful anthology of medical classics, appearing in its third edition, needs little comment. The production of a third edition in only thirteen years is adequate evidence of the demand for the work. It is a sign of its special usefulness to the average physician or medical student who cannot find time to explore original sources himself.

Classic Descriptions of Disease presents almost three hundred selections of the medical literature of Western nations from the Egyptian Papyrus Ebers to papers from medical journals that we read today. The selections are most numerous from the eighteenth- and nineteenth-century European physicians not only because these are the men whose names appear most prominently in modern clinical terminology, but because from them came descriptions of disease that begin to ring true in relation to current scientific concepts. The collection's title is more precisely accurate than some readers might suppose, for the selections are limited almost exclusively to diagnostics, to descriptions of disease pictures, with little material on therapeutics and nothing on bacteriology, pharmacology, public health, or other major aspects of medicine. Because of this, Major has been able to give relatively thorough treatment to his chosen field. Even in this province, however, there is an obvious predilection for the diseases of special interest to internal medicine and no selections on important medical problems like cancer or fractures or other conditions of main interest to surgery.

The brief biographical sketches in connection with each contributor are remarkably concise pictures of the man whose work has lived on. They are highly personalized accounts which subscribe rather completely to the "great man" theory of history. The grievous errors or distortions occasionally found in the disease descriptions (from the perspective of contemporary science) clash sometimes rather sharply with the heroic proportions in which the man has been portrayed.

Perusal of any such rich body of selections from the medical literature of past centuries leaves the modern medical reader with a variety of reactions. There is the reaction, which has been most frequently voiced, of deep admiration for the medical giants of the past who, without benefit of microscope, x-ray machine, or chemical analysis, were able to arrive at accurate diagnoses of disease through acute perception and careful logic. There is the recognition one keenly feels of the long, painstaking process through which our knowledge has developed in the course of the centuries, the mistaken byways in which it has been detained here and there, and the great difficulties involved in finding truth. There is still

another reaction that is perhaps particularly characteristic of the younger physician who views medicine more fully as a technology and less as an art than his older associate. That is the profound respect that such reading gives for the scientific method. When the scientific approach becomes part of our daily thinking in clinical medicine (if not social medicine), we may sometimes lose sight of its value, of the fruitless dead-ends to which one may be led when it is not followed. A review of the colorful, interesting, but often mystical and fallacious conceptions of disease held by the masters of the pre-scientific era inspires new respect for the test tube and the cage of white mice. In the long history of medicine, it is sometimes surprising to discover how recently this approach has been applied.

When a new and essential contribution is made by a man, it is easy to forget the work of others who laid the groundwork for the discovery. Genius is attributed to the man who makes the first definite exposition of the phenomenon. We tend to overlook his errors and to read meaning into his affirmations that will make them fit the story as we know it today.

Critical and objective analysis of even the medical classics, on the other hand, can do much to overcome hallowed and sanctimonious conceptions of "the doctor through the ages." Not that one should blandly apply the standards of today in evaluating the merit of the thinking of another century. The measurement of venerable and ancient medical conceptions against the cool test of scientific logic, however, shows how hollow was the foundation of the medicine used to treat the ills of mankind for many centuries.

The highest appreciation of a medical classic obviously comes from reading it against the background of the period in which it was written. If this is done, the physician loses much of his halo and becomes a representative of his time and nation not more magnificent nor more humble than other educated persons of the same day. At the same time, much of what might seem foolish in a later period acquires significance, though not necessarily truth. The physician's thinking is perhaps a particularly sensitive reflection of the intellectual heritage of his period and it is this aspect of it that probably has the greatest historical meaning. *Classic Descriptions of Disease*, therefore, gives us not only historic gems of medical diagnosis but a kind of live demonstration, in the language of the men themselves, of the development of man's understanding of nature.

MILTON I. ROEMER

E. WAGNER STEARN AND ALLEN E. STERN. *The Effect of Smallpox on the Destiny of the Amerindian.* Boston: Humphries, 1946. 153 pp., 2 tables. $2.50.

THE HISTORY of the conquest of the American Indian has already been written in terms of the White conqueror's superior arms, his superior culture, his craft, subterfuge, and downright treachery, and in terms of the internecine strife among the Indians themselves. The present volume tells of the most terrible weapon of all, the natural weapon of smallpox. It is apparently not too great an exaggeration to say that this dread disease, as much as, if not more than, anything else, conquered the American Indian. It not only decimated his ranks but it broke his morale as well. He was an easy victim to the onrushing avaricious hordes of

White conquerors, who, on occasion, were allegedly not above the deliberate introduction of the pestilential "fifth column," smallpox.

The Indians were so overwhelmed by smallpox because they seemed to have no natural immunity. Added to this was their resistance to vaccination or inoculation and their absolute refusal to observe quarantine and isolation. The authors provide startling proof of the devastating effect of smallpox. From 1520 on the Mexican Indians lost fully one-third of their original three to four million population. For the United States, Canada, and Alaska the following numerical decline in population may be noted: in the North Atlantic States from 55,000 in 1600 to 22,000 in 1907; in the South Atlantic States from 52,000 in 1600 to 2170 in 1907 (though here there must be reckoned the forced removal to Oklahoma Territory of the Five Civilized Tribes); in the Gulf States from an "original" 114,000 to "one half" in 1907; in the Plains Area from an "original" 142,000 to 53,000 in 1907; in the Central States from 75,000 in 1650 to 46,000 in 1907; in the Columbia Region from 90,000 in 1780 to 15,000 in 1907; in the California Area from 260,000 in 1800 to 19,000 in 1907; in the Central Mountain Area from 19,300 in 1845 to 11,500 in 1907; in New Mexico and Arizona from 72,000 in 1680 to 54,000 in 1907; in Eastern Canada from 54,000 in 1600 to 27,000 in 1906; in Central Canada from an "original" 51,000 to 28,000 in 1906; in British Columbia from an "original" 86,000 to 25,000 in 1906; and in Alaska from 73,000 in 1740 to 28,000 in 1900. It is not claimed, of course, that smallpox was the sole factor in this general and marked population decline, but it was certainly a major factor.

In 1900, or a little earlier, a milder form of smallpox hit the American Indian. This fact, plus a final recognition of the value of preventive measures, has placed his smallpox record, both as to incidence and mortality, on a par with that of the Whites.

The authors, one a bacteriologist, the other a chemist, have performed a great service for the student of the American Indian. They have, indeed, offered a useful chapter in the biological interpretation of history. The book is simply and well written and is very well documented. It is a welcome and valuable addition to medical history.

W. M. Krogman

James V. Ricci. *One Hundred Years of Gynaecology, 1800–1900.* A Comprehensive Review of the Specialty during its Greatest Century with Summaries and Case Reports of all Diseases Pertaining to Women. Philadelphia: The Blakiston Company, 1945. 651 pp. $8.50.

This work is the completion of a large undertaking by the author and his collaborators, and represents essentially the incorporation in one volume of every important name and reference in gynecology of the nineteenth century. Some idea of its scope may be gained from the fact that the index of names alone contains some 8000 names. The volume is not a historical survey in the usual sense, but must be looked upon as defined by Dr. Claude Heaton in the introduction as "the

most complete source book in the literature pertinent to the history of Gynaecology."

The work is divided into 33 chapters, each for the most part devoted to the development and literature of an entity, such as treatment of ovarian cysts, ovarian pathology, genital fistulae and methods of repair, and so forth. This is a useful arrangement for ready-working purposes in such a reference volume, although in a historical survey *per se* one might be more critical of its use.

How well the author has done his task of bringing together this great collection of names and references must be left to the judgment of those few who are expert in this field. Certainly its proper appraisal requires a comprehension of the subject which the practising gynecologist cannot hope to possess. In parts of the work, however, particularly in the first chapter, medical trends in gynecology are discussed, and certain of these statements merit critical attention.

Perhaps the first thing that will strike the reader in opening this book is the author's persistent use of the diphthong in every medical word in which it is possible to do so. This, of course, is noted in the title. In the text we occasionally find not only absurd, but definitely wrong usage. For instance, the author refers in italics to the "American Journal of Obstetrics and Gynaecology," which since its founding in 1920 has never appeared in this way. His reference to the "American Gynaecological Society" is subject to similar criticism. Words, such as aetiological, leucorrhoea, amenorrhoea, appear awkward and their use in this form serves no purpose whatever unless the author has some Messianic idea to re-establish such usage. Occasionally, however, the author finds himself caught off base as in "anesthesia," p. 31, and "Gynecological," p. 321.

This reviewer realizes that the editing of such a work is a task requiring unusual pains and great patience. Nevertheless, it seems strange in this centenary year of the discovery of anesthesia that a medical historian could overlook a reference to Horace Wells as a "dentist of New Haven." Occasionally there are general statements that may be misleading. In speaking of Semmelweiss the author states that he "reduced the enormous postpartum deathrate by showing that infectious material on the hands of obstetricians consisted of decomposed animal matter which was removable by chemically sterilizing the hands (1844). Similarly Oliver Wendell Holmes in 1843 independently arrived at the same conclusion." The facts are that Holmes was chiefly concerned with the spread of the disease from patient to patient, its contagiousness, and that it was in May 1847 that Semmelweiss introduced the use of chlorine water for washing the hands before examining women in labor. In 1844 he received his M.D. degree.

A statement which again seems somewhat misleading is that Tait, "eventually depended upon the use of soap and water as a disinfectant, thus approaching the aseptic age." Tait consistently refused to admit to Lister's principle; a "Disinfectant" would have been meaningless to him. He not only approached the aseptic age—he inaugurated it!

On page 30 we read, "Later this, (the standing position) was replaced entirely by the dorsal position, until the Sims' position and the knee-chest became popular. Sims used the knee-chest position for the first time in 1845." The genu-

pectoral position had long been known. Sims states in his autobiography that he was taught its use in medical school and quotes Dr. Prioleau of the Charleston Medical College.

This reviewer regrets that more emphasis is not given to John Stearns, an American who was responsible for the modern use of the properties of ergot as an oxytocic. Dr. Ricci accords him but a sentence and refers to him as John Steams of Saratoga. Actually, Stearns practised in Waterford, N. Y., in the County of Saratoga, and it was from there that his celebrated letter was written in 1807. His discovery was a great contribution and he was referred to in his lifetime as the American "Jenner." He was later eminent as a physician in New York City and was the first President of the New York Academy of Medicine.

Occasional misspelling of proper names occurs: Henri L. Stuard, for Henri L. Stuart, a financial backer of Sims's enterprise, the Woman's Hospital. On investigation, "Dr. Welsh" of that institution turns out to be William H. Welch.

Chapter Twelve is entitled, "Extra-fundal Pregnancy and Therapy." The use of the term "extra-fundal" is not usual and one wonders why it was chosen. Nowhere else in this chapter does it appear. Instead we find extra-uterine pregnancy, extra-uterine gravidity, ectopic gestation, ectopic pregnancy, and extra-uterine gestation, all used interchangeably. We also find this statement: "In the first quarter of the century three types of extra-uterine pregnancy were recognized—tubal, ovarian, and abdominal. M. Mayer added a fourth species, which he called utero-interstitial, in which the foetus developed in the midst of the fibres of the uterus." Such a development is, of course, not extra-uterine, but ectopic—extrafundal, if you like the word.

Such discrepancies, which are here noted, do not detract too much from a work which will undoubtedly take its place as a useful reference book for the student of the history of gynecology and its source material. Certain chapters are very well done, such as Chapter Five on "Genital Fistulae and Methods of Repair" and Chapter Fifteen on "Relaxation of the Vaginal Walls." An altogether too brief and a delightful addition to the work is "Memoirs in Gynaecology" by Henry Clarke Coe of New York City, now of cherished memory to a host of physicians whose fortune it was to know a grand old man. Finally, probably due to the paper shortage, it was necessary to use a coated paper for this volume. In the absence of illustrations it is hard to believe that this was intentional, for reading quality is unquestionably sacrificed thereby.

HERBERT THOMS

Galen on Medical Experience. First edition of the Arabic version with English translation and notes by R. Walzer. London: Oxford University Press, 1944. xii+164 pp. $4.00.

WHEN a medical work written about eighteen hundred years ago is offered to the public in a modern version, the question is in order as to the justification for such an anachronism. A practical application can hardly be expected; it is only from the historical point of view that such a work may be of interest and even importance. The publishers seem to have anticipated this question in the mind of

the prospective buyer or would-be reader. The book jacket explains that the publication of this Arabic version of Galen's treatise *On Medical Experience* restores to medical science a work hitherto lost, except for two small fragments of the original Greek text. The only known manuscript of the Arabic version was discovered in 1931 in a library at Constantinople. As only a single Greek work on the empirical medicine of antiquity has previously been traced (a Latin version of a work by Galen), the new text has a considerable bearing on our knowledge of this medical school. It is also of importance for the history of skeptic philosophy and contains a new fragment of Democritus. The Arabic version gives fresh proof of the wonderful command of the style and language of Greek learning which characterizes the Nestorian translators of the ninth century.

So much for the explanations of the publishers. Now let us refresh our memory about the author. Galen, who lived in the second century of our era, was the most celebrated of ancient medical writers. His great learning and outstanding success as a physician earned him the title of "wonder-worker." The theory of the four humors belongs to him. In some sense he is almost a legendary hero. The number of his works on various subjects, including logic, ethics, and grammar, is estimated at about five hundred. His own list of his works may not be complete. With such prolific writers it is not uncommon that less successful writers try to sail under the name which already has won literary fame. Galen is an outstanding proof of this. The authenticity of all works ascribed to him has to be tested from that point of view. A number of works accredited to him already have been recognized as forgeries but many are classified as doubtful. Galen's literary activity therefore, still offers a fertile field for research. That it was on more than one occasion a topic for discussion at academic sessions is attested by several footnotes in this book, in which the author refers to the *Proceedings of the Prussian Academy of Sciences*.

The treatise *On Medical Experience* was written before A.D. 150, when Galen had not even reached the age of 21. Only fragments of the Greek text have survived, and these have been fitted into the text. The earliest complete version known is the Arabic translation from the ninth century now translated by Walzer. Until 1901, the only translation was the Latin version of a short part of it.

Galen's work was translated from Greek into Syriac by Ḥunain ibn Isḥāq, who became quite famous as the head of a school of translators. His nephew Hubaish translated the Syriac version into Arabic. The peculiarities of the style of Hubaish have been studied and defined by Bergsträsser (*Ḥunain ibn Isḥāq und seine Schule*, Leipzig, 1913). In his preface Walzer describes the structure of the sentences of the Arabic translator as marked by great prolixity, which he did not always feel bound to reproduce in his English translation.

In trying to judge the style of the author, we have to keep in mind not only that the English text is a translation, but that it is based on a double translation of the original. Nevertheless we can tell that Galen's style was vigorous, reflecting a period of "Sturm und Drang" with an admixture of "Odium scholasticum." As a sample, I quote a passage from the first page:

Asclepiades the Bithynian, however, respected neither the earlier thinkers nor the truth, but allowed his boastfulness, arrogance, distorted reasoning and ignoble obstinacy to drive him to act shamefully and to rush blindly into wrongdoing whereby he was emboldened to disparage and despise experience in the expectation that all men would admit him to have said something uttered by none before his time.

If we examine the Arabic text, we can appreciate the difficulty of translating it into readable English and the necessity of changing the construction. It may be an unusual procedure if I attempt to show the difference between text and translation by a literal translation of the corresponding Arabic text.

However, Asclepiades, who is of the people of Bithynia, verily he did not blush and he was not ashamed, neither before the ancients nor before the truth, but by his boastfulness and haughtiness or depravity of hidden thought and evil obstinacy and the readiness to proceed to the perpetration of what is infamous and the blind rush into what is disgusting, he was instigated to hope that he would appear to the people as saying something wonderful, not told by anyone before him, so that he set out with boldness on his part to disparage experience and slander it.

On the book jacket it is stated that the English translation has been revised in conjunction with Professor H. A. R. Gibb of Oxford. Ten pages of notes conclude the book.

According to a statement by Galen himself, this work *On Medical Experience* was intended to reproduce a disputation held in Smyrna between Galen's master, the dogmatist Pelops, and the empiricist Philippos. The structure of the work is explained by Walzer in his preface as follows:

In the present treatise his [Galen's] personal introductory remarks are at the beginning (cap. I). Asclepiades of Bithynia, the famous physician of Sulla's age, assails by his vehement attacks on Empiricism the union of Empiricism and Theory which Galen determinedly affirmed all his life. Following a short attack by a Dogmatist of Asclepiades' school of thought . . . there follows a detailed rejoinder by an Empiricist, who demonstrates, in a polemical discussion with the Dogmatist, what is meant by the empirical art of medicine. Both with respect to contents and length, this speech forms the most important part of the new text. . . . The Empiricist's speech in the Περὶ τῆς ἰατρικῆς ἐμπειρίας is the only one of its kind that has been preserved, and is representative of a type of ancient medical works which is otherwise only known to us in quotations. . . . The new text has thus extended our knowledge of this most important school of medicine, the original writings of which were lost at a later period of antiquity . . . .

In these circumstances, it is an important fact that Galen refrained from expressing his own opinion in the Empiricist's speech, but reproduced views alien to his own. According to his own statement . . . he intends only to draw a picture of a typical Empirical treatise in a manner similar to what might have been adopted by Serapion about 200 B.C., and by Menodotos or Theodas about the second century A.D. . . . It is . . . quite possible that Menodotos was the direct authority used by Galen or Philippos in the present disputation between the two schools of medicine.

As for the make-up of the book, it is sufficient to remember that it was published by the Oxford University Press, which means fine paper, neat print, and good binding.

F. E. Sommer

Conway Zirkle. *The Early History of the Idea of the Inheritance of Acquired Characters and of Pangenesis.* Transactions of the American Philosophical Society (n.s. 35 (II): 91–157), 1946.

As a source treatise, providing direct access to most of the known records on in-

heritance of acquired characters and pangenesis, Professor Zirkle's compilation will stand as a contribution of permanent value. Although the bulk of the fifty large two-column pages consists of excerpts in small print from ancient tomes, and although many of these excerpts repeat earlier ideas *ad nauseam*, yet the compiler has considerately summarized most of them in his transitional paragraphs or sentences so that the impatient reader can get the main ideas without reading the excerpts at all. Furthermore, he has provided a valuable introduction and excellent summary, all in the space of three or four pages which, taken together, give the hurried student what he needs to know about this most interesting part of the historical background of modern theories of heredity and evolution.

For those who are interested in the history of science and philosophy, on the other hand, the excerpts are well chosen and adequate in amount; and the textual citations and the bibliography are adequate for the guidance of research students to the original materials. There is an index to authors cited. Several generalizations can be derived from this treatise which are of general interest to biology. The following notes appeal to the reviewer as having special significance for the history of genetics and evolution.

The inheritance of acquired characters has been a preponderant belief of mankind. The earliest record of this belief, according to Zirkle, seems to be the prehistoric Greek legend of how the Ethiopians got a black skin. In my opinion however, the story, told in the concluding part of the thirtieth chapter of Genesis, of how Jacob increased the number of spotted animals in his flocks of sheep and goats is of equal or greater antiquity. The main point is that during a period of over two thousand years, i.e., up to the end of the 18th century, only six writers are known to have rejected the idea of the inheritance of acquired characters. Four of these, Bonnet, Kames, Kant, and White, wrote during the 18th century; the other two were much earlier—Vincent of Beauvais (1190–1264) and Lucretius (99–55 B.C.).

The word, pangenesis, was coined by Darwin. However, the concept that the germinal material was derived from all parts of the body, by most writers in the form of excess or refined food material (St. Thomas Aquinas and Roger Bacon in the 13th century and Buffon in the 18th century), but by some authors as effusions or excretions from the various body parts (Hippocrates, *ca.* 400 B.C., Leonardo da Vinci in the 15th century, and most medical works of the 16th and 17th centuries), was in vogue for at least twenty-three hundred years. Its end came with the rediscovery of Mendel's paper in 1900.

Although the "provisional hypothesis" of pangenesis was devised by Darwin to "explain" the inheritance of acquired characters as an aid in establishing the theory of organic evolution, most of Darwin's predecessors who accepted the idea that the germinal material came from all parts of the body had no conception of evolution. Furthermore, in the minds of many of these earlier writers, there was either no association between this pangenetic concept and the inheritance of acquired characters, or the one was accepted and the other rejected. For example, Aristotle accepted the doctrine of the inheritance of acquired characters, although

he did not believe that mutilations were always inherited, but he rejected the doctrine of pangenesis.

As for Lamarck, according to Zirkle, his individual contribution to biology consists in his application of the ancient and generally accepted doctrine of the inheritance of acquired characters to the problem of the origin of species, and hence to the explanation of evolution. But in spite of his ludicrous efforts to illustrate the inheritance of acquired characters, it does not seem quite fair to Lamarck to overlook entirely his service to biology in the field of systematics. According to Singer (*A Short History of Biology*, Oxford, 1931) Lamarck made important and lasting contributions as a systematist. Furthermore, his adherence to the idea of the continuity of living things, in a word, to organic evolution, was a noteworthy contribution in itself.

Perhaps a few words should be added for the guidance of readers who are aware of a current persistence of belief in the inheritance of acquired characters, even though this is not part of the treatise under review which ends with Darwin. Zirkle, however, does allude to the experiments of William McDougal, conducted little more than a decade ago, to test the heritability of the effects of maze learning in rats. Although his results could not be verified by two other investigators of high standing, McDougal in 1938 (*Brit. Jour. Psych.* [gen. sec.] 28: 365–395) persisted in his claim of having demonstrated the inheritance of acquired characters. The reader will find an excellent brief discussion of this subject in Huxley's *Evolution: The Modern Synthesis*, 457–65. His conclusion follows:

> Thus we are driven back on to direct experimental proof, and that, as we have already set forth, is meagre and confusing. It is for this reason that the majority of biologists, including the very great majorit of those who have experience of actual genetic work, repudiate lamarckism, or, at best, assign to it a subsidiary and unimportant role in evolution. Even if lamarckism be operative at all, it seems clear that some other mechanism must be invoked to account for the major part of evo' on.

E. B. Babcock

Charles F. Mullett. *Public Baths and Health in England, 16th–18th Century.* Baltimore: The Johns Hopkins Press, 1946. 85 pp. $1.50.

Dr. Charles F. Mullett, professor of history at the University of Missouri, in his sound and stimulating article on "Medical History: Some Problems and Opportunities" (Journal of the History of Medicine and Allied Sciences 1 (1946) 189–207) makes a strong case for a detailed study of the "lesser problems and tendencies" in medical history to give a sounder historical perspective on the great names and the great achievements of the past. He shows how the investigator has many more varied sources of information available than the writer of medical history usually appreciates, unless he has been specially trained in the technique of history. For illustration Dr. Mullett draws upon his own researches in public health and medicine in England from 1500 to 1800.

One result of his research and an admirable example of the widespread material available for the medical historian is this "bibliographical essay," as Dr. Mullett describes it, on the spas of England from the 16th to 18th centuries,—

material covering the widespread knowledge, use, and enjoyment of these watering places. In the essay he gives a running commentary upon the references to watering places in England from Dr. William Turner's dissertation upon Bath in 1562, the first item in the chronologically arranged bibliography, down through Falconer's comments on that same spa in 1858. In the bibliography (pp. 56–80) he has assembled 145 books, more than 150 articles in the Royal Society's *Philosophical Transactions*, and fifty or more references and notes in contemporary periodicals bearing on these mineral springs and their health-giving properties. The names of nearly 90 watering places and springs in England and Wales are listed in an index (pp. 84–85.) With this wealth of material Professor Mullett prepares the way for a thoroughgoing study of these spas in their medical as well as their cultural aspects.

Professor Mullett rightly calls his study a "sketch" for, aside from the great amount of bibliographical material he has made available, he merely hints at the possibilities of his subject. Its importance he suggests in a paragraph concluding with this sentence (p. 3): "No one familiar with the civilization of 16th–18th century England can long overlook the contemporary social and medical importance of spas." He states the fact of its importance but he does not discuss its significance or correlate his material with more general medical and social history. That development must await the larger study he advocates.

A somewhat similar study, but with a different purpose, has already been done for the less well known American mineral springs. Some years ago Dr. Henry Sigerist published an article on "American Spas in Historical Perspective" (*Bulletin of the History of Medicine* 11 (1942) 133–147)[1] discussing the wealth of mineral springs in this country and their apparent neglect, with but rare exceptions, by American medical science. He contrasted this situation with the long-standing popularity of such waters in European medical practice and presented for the American continent a plan for the development of balneology as part of a broad social program for public health. Thus both Dr. Sigerist and Dr. Mullett have blazed trails through the forests of the past, trails which should greatly aid the future historian of spas in medical and cultural history.

One further comment: is not the title of Dr. Mullett's essay possibly misleading? Public baths, to one reader at least, carried the connotation of municipal bath houses provided for the furtherance of public health and cleanliness. A distinct shift in the reader's mental approach became necessary when in the second paragraph of the essay "watering places" were mentioned and Bath was named. What is the objection to using "spas" in the title? The author continually uses the word interchangeably with "watering places." The Oxford English Dictionary states that "spa" was first used in 1626 for a medical or mineral spring, and was applied to the watering place or resort itself by 1777. With the support of long continental and English usage behind it, would it not be permissible and indeed preferable to use the word "spas" in the title rather than to use a term like "public baths" which has more than one significance?

DOROTHY STIMSON

[1] See also Henry E. Sigerist, "Health Resorts," *Ciba Symposia* 8(1946) 302-336.

OTTO GLASSER. *Dr. W. C. Roentgen.* Springfield, Illinois: Charles C Thomas, 1945. vi+169 pp., illustrated. $4.50.

DR. OTTO GLASSER, biophysicist to the Cleveland Clinic Foundation, is the author of a biography of Roentgen, first published in German in 1931, and translated into English in 1933. An American edition appeared in 1934. In addition, he has published a number of shorter studies on the history of x-rays, and collected a mass of documentary material, photographs, and other memorabilia dealing with Roentgen and the impact of his discovery on the civilized world. It was only natural, therefore, that when the American Roentgen Ray Society, the Radiological Society of North America, and the American College of Radiology decided jointly to sponsor a commemorative volume on the occasion of the fiftieth anniversary of the discovery of the x-rays and the one hundredth anniversary of the birth of their discoverer, they should turn to Otto Glasser to prepare the book. The result is a work which in both content and format is a fitting memorial to the man and the discovery which it honors.

In three brief but adequate chapters Dr. Glasser sketches the life of Roentgen from his birth to that day (November 8, 1895) when in the darkness of his laboratory he made his immortal discovery. Chapter 4 is a new translation of the classic first paper which announced the discovery of the x-rays. Chapter 5 is devoted to an account of the hectic weeks immediately following the publication of this paper, which was receiving an unprecedented amount of atttention from the scientific and lay press. Roentgen's second paper appeared on March 9, 1896 and his third paper followed almost exactly one year later on March 10, 1897. Each is reproduced here in a new translation and framed as it were in Glasser's incisive and judicious commentaries.

The final chapter takes up the story of Roentgen's later years, the reception accorded his discovery, the honors showered upon him, the simplicity and modesty of the man, and finally the quiet manner of his passing, on November 10, 1923.

In the appendix appears a list of the scientific papers of Wilhelm Conrad Roentgen, a chronology of his life, and finally a list of the sources used by the author in preparing this new version of the life of Roentgen. Author and subject indexes complete this admirable little book.

MORRIS C. LEIKIND

NOTES ON CONTRIBUTORS

RAYMOND DE SAUSSURE, M.D., professor at the Ecole Libre des Hautes Etudes and lecturer at the New York Institute of Psychoanalysis, is the author of *Le Miracle Grec.*

HUGH G. DICK, Ph.D., assistant professor of English at the University of California, Los Angeles, has for a number of years studied the relations between literature and science in the 16th and 17th centuries, and expects during the present year to complete a work on the history of astrological thought addressed to a general audience.

MAX H. FISCH, Ph.D., chief of the History of Medicine Division of the Army Medical Library and author of *Philosophy in America from the Puritans to James* (with Paul R. Anderson) and the *Autobiography of Giambattista Vico*, a translation with T. G. Bergin.

JANE M. OPPENHEIMER, science faculty member at Bryn Mawr College, has written a work on the Hunters just published by Henry Schuman.

MADGE E. PICKARD, M.A., formerly of the History Department of Indiana University and the Historical Library, Yale University, School of Medicine, co-author with R. C. Buley of *The Midwest Pioneer: His Ills, Cures, and Doctors*, is Assistant Editor of the College Department of Alfred A. Knopf, Inc.

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